Grade One

Mathematics

Module 7

Mathematics
Module 7

This product is the result of a joint venture with the following contributors:

Alberta LEARNING

Alberta Learning
11160 Jasper Avenue
Edmonton, Alberta, Canada T5K 0L2
Internet: http://www.learning.gov.ab.ca/

BRITISH COLUMBIA

Ministry of Education
Province of British Columbia
Victoria, British Columbia, Canada V8W 1X4
Internet: http://www.bced.gov.bc.ca

Learning Technologies Branch

Learning Technologies Branch
Box 4000
Barrhead, Alberta, Canada T7N 1P4
Tel: (780) 674-5350, Fax: (780) 674-6561
Internet: http://www.learning.gov.ab.ca/ltb

OPEN SCHOOL

Open School
Open Learning Agency
1117 Wharf Street, 2nd Floor
Victoria, British Columbia, Canada V8W 1T7
Internet: http://www.openschool.bc.ca/

Alberta Distance Learning Centre
Box 4000
Barrhead, Alberta, Canada T7N 1P4
Tel: (780) 674-5333, Fax: (780) 674-6977
Internet: http://www.adlc.ab.ca

Learning Resources Distributing Centre
12360 – 142 Street
Edmonton, Alberta, Canada T5L 4X9
Tel: (780) 427-2767, Fax: (780) 422-9750
Internet: http://www.lrdc.edc.gov.ab.ca

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

The Learning Technologies Branch has an Internet site that you may find useful. The address is as follows:

http://www.learning.gov.ab.ca/ltb

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

Course Overview and Basic Components

Welcome to the Grade One Mathematics program.

The booklet you are presently reading is called a Student Module Booklet. It will take you through the course and show you, step by step, what to do with the student and how to do it. The activities you do will prepare the student for the assignments.

Grade One Mathematics contains nine modules. Each module has two Assignment Booklets. The module you are working on is highlighted in a darker colour. The two other basic course components—a Home Instructor's Manual and a Calendar Package—are also highlighted.
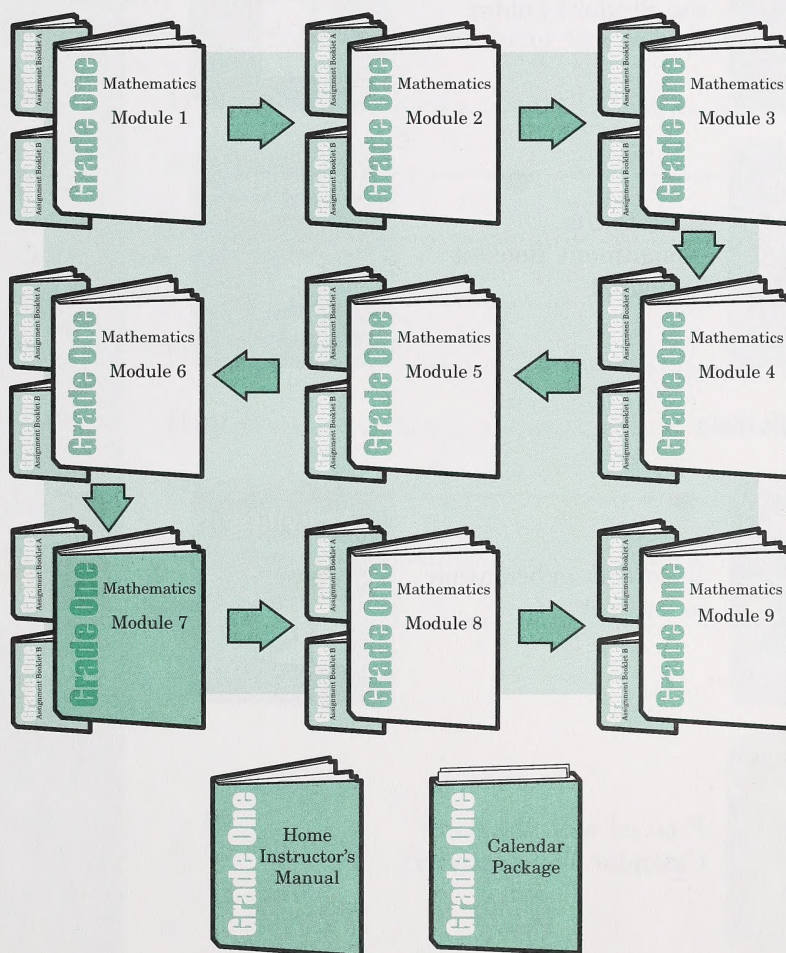
Visual Cues

Throughout the Grade One Mathematics program, you will find visual cues that indicate a material needed or an activity to carry out. Read the following explanations to discover what each icon prompts you to do.
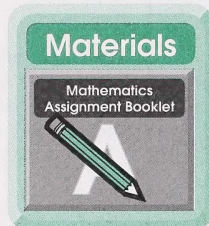
Icons: Materials

Materials
Student Folder
123

Place an item in the Student Folder.

Materials
Home Instructor's Manual
Grade One

Turn to the Home Instructor's Manual for further information.

Materials
Mathematics Assignment Booklet
A

Turn to the Assignment Booklet indicated.

Materials
Mathematics Assignment Booklet
B
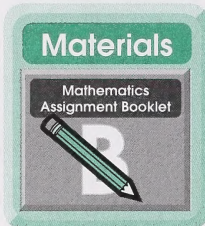
Turn to the Assignment Booklet indicated.

Icons: Activities

Activities
Teaching Tip

Read this information to yourself.

Activities
Home Instructor's Script
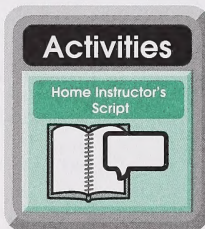
Read this information with the student.

Activities
Calendar Time

Proceed with the daily Calendar Time activity.

Contents

Mathematics Module 7 Overview

Welcome to Grade One Mathematics Module 7.

In this module, the student will develop an understanding of 100. The child may already be familiar with counting to 100 but may not be aware of the meaning and patterning involved with this process. The student will also learn to estimate, recognize place value, and build sets of tens and ones to 50.

A thorough understanding of place value is necessary so that addition, subtraction, and, in later grades, multiplication and division, can be learned and used in meaningful ways. Understanding place value promotes number sense, aids estimation, and helps the student recognize reasonable mathematical answers.

Later on in this module, time, temperature, and money are discussed. The student will measure time of occurrence and length, or duration, of events. Then the student will describe and compare temperatures using the senses.

In the study of money, the student will learn to recognize the value of pennies, nickels, and dimes. The student will also determine equivalent value by trading coins and showing different sets of coins for the same amount.

Each day's lesson has four main elements. All four are important parts of the program.
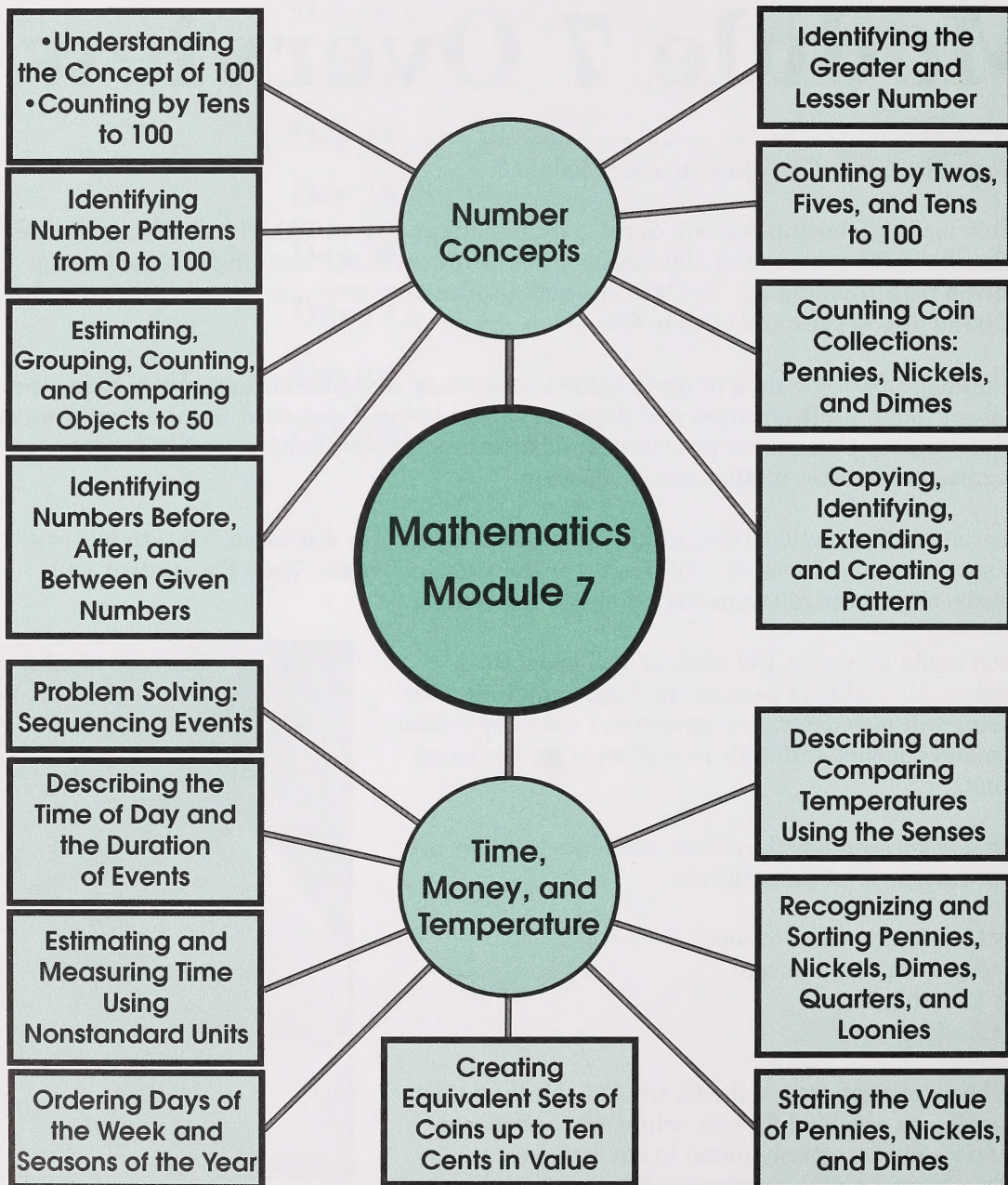
- Developing the Concept
- Applying the Concept
- Enrichment
- Assignments

The basic components of the Grade One Mathematics program are provided for you, while other practical materials are commonly found in the home or easily made. Throughout this program, the practical, hands-on materials used to teach the concepts are referred to as *manipulatives*.

Module Web Chart

This chart highlights the main mathematical topics for this module.

- Understanding the Concept of 100
- Counting by Tens to 100

Identifying Number Patterns from 0 to 100

Estimating, Grouping, Counting, and Comparing Objects to 50

Identifying Numbers Before, After, and Between Given Numbers

Problem Solving: Sequencing Events

Describing the Time of Day and the Duration of Events

Estimating and Measuring Time Using Nonstandard Units

Ordering Days of the Week and Seasons of the Year

Number Concepts

Mathematics Module 7

Time, Money, and Temperature

Identifying the Greater and Lesser Number

Counting by Twos, Fives, and Tens to 100

Counting Coin Collections: Pennies, Nickels, and Dimes

Copying, Identifying, Extending, and Creating a Pattern

Describing and Comparing Temperatures Using the Senses

Recognizing and Sorting Pennies, Nickels, Dimes, Quarters, and Loonies

Creating Equivalent Sets of Coins up to Ten Cents in Value

Stating the Value of Pennies, Nickels, and Dimes

Mathematics Module Submissions

Materials
Student Folder

Place completed items in the Student Folder when you see this icon. On Day 9 and Day 18 of each module, you will find a checklist in the Assignment Booklet to help you compile items for submission to the child's teacher. The teacher will let you know when to provide these items for marking.

Materials
Home Instructor's Manual

Note: The Student Folder is not included with the basic course components. Refer to the Home Instructor's Manual for information on the Student Folder.
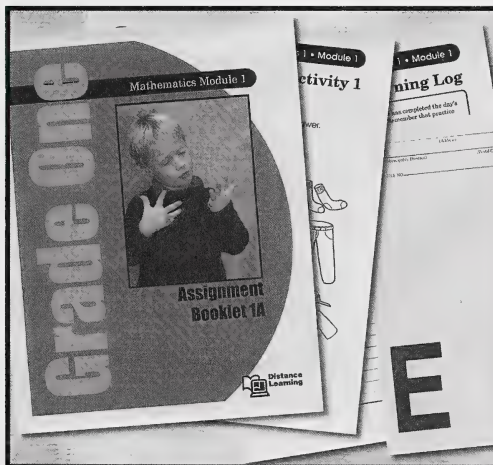
Calendar Time

Activities
Calendar Time

Many essential concepts are learned through the calendar activities that begin each lesson. If your student is not enrolled in the accompanying Grade One Thematic program, refer to the Calendar Package for information, activities, and resources.

Additional Resources

The basic mathematics resources that the student needs for this module are provided. You could extend these basic resources with additional ones from a public or school library. Listed below are concept-related books that could enrich this module. A trip to the library in search of these resources may be a delightful beginning to your module. In addition, you could investigate the many games and computer programs on the market that may enhance your student's learning opportunities.

Number Concept Resources

Baylor, B. *Everybody Needs a Rock*. 1974.
Carle, E. *The Grouchy Ladybug*. 1986.
Cleveland, D. *The April Rabbits*. 1988.
Dee, Rudy. *Two Ways to Count to Ten*. 1988.
Ehlert, L. *Fish Eyes: A Book You Can Count On*. 1990.
Eichenberg, F. *Dancing in the Moon: Counting Rhymes*. 1983.
Fitch, Sheree and Marc Mongeau. *There Were Monkeys in My Kitchen!* 1992.
Gantz, D. *Captain Swifty Counts to Fifty*. 1982.
Giganti, P. *Each Orange Had Eight Slices*. 1992.
Gillham, B., and S. Hulme. *Let's Look for Numbers*. 1984.
Hirsh, M. *Hannibal and His Thirty-Seven Elephants*. 1977.
Howard, K. *I Can Count to One Hundred … Can You?* 1979.
Johnston, T. *Whale Song*. 1987.

Josefowitz, N. *A Hundred Scoops of Ice Cream*. 1989.
Kasza, Keiko. *The Wolf's Chicken Stew*. 1987.
Leonard, M. *Counting Kangaroos: A Book About Numbers*. 1989.
Lorimer, Lawrence. *Noah's Ark*. 1978.
Mogensen, J. *Forty-Six Little Men*. 1990.
Oxenbury, H. *Numbers of Things*. 1967.
Penney, I. *A Shop Full of Kittens*. 1990.
Peppe, R. *Circus Numbers*. 1969.
Pluckrose, H. *Counting*. 1988.
Reis, J. *Numbers*. 1987.
Schade, S., and J. Buller. *The Noisy Counting Book*. 1987.
Selfridge, O. *Fingers Come in Fives*. 1966.
Sitomer, Mindel, and Harry Sitomer. *How Did Numbers Begin?* 1976.
Zaslavsky, C. *Zero: Is It Something? Is It Nothing?* 1989.

Measurement Concept Resources

Time

Carle, Eric. *The Very Hungry Caterpillar*. 1969.
Heit, Robert. *The Day That Monday Ran Away*. 1969.
Lionni, Leo. *Mouse Days*. 1980.
Pluckrose, Henry. *Time*. 1995.
Sendak, Maurice. *Chicken Soup with Rice*. 1986.
Sulevitz, Uri. *One Monday Morning*. 1967.

Temperature

Hoban, Tana. *Exactly the Opposite*. 1990
Miller, Ned. *Emmett's Snowball*. 1990.
Munsch, Robert. *Fifty Below Zero*. 1986.
Van Leeuwen, Jean. *Too Hot for Ice Cream*. 1974.

Money

Berenstain, S., and J. Berenstain. *Berenstain Bears' Trouble with Money*. 1983.
Brenner, Barbara. *Annie's Pet*. 1999.
Bunting, Eve. *A Perfect Father's Day*. 2000.
Caple, Kathy. *The Purse*. 1986.
Emberley, Barbara. *One Wide River to Cross*. 1992.
Galdone, Paul. *Jack and the Beanstalk*. 1974.
Hoban, Lillian. *Arthur's Funny Money*. 1981.
Hoban, Tana. *Twenty-Six Letters and Ninety-Nine Cents*. 1987.
Mathis, Sharon. *The Hundred-Penny Box*. 1986.
McNamara, Louise. *Henry's Pennies*. 1972.
Schwartz, David. *If You Made a Million*. 1994.
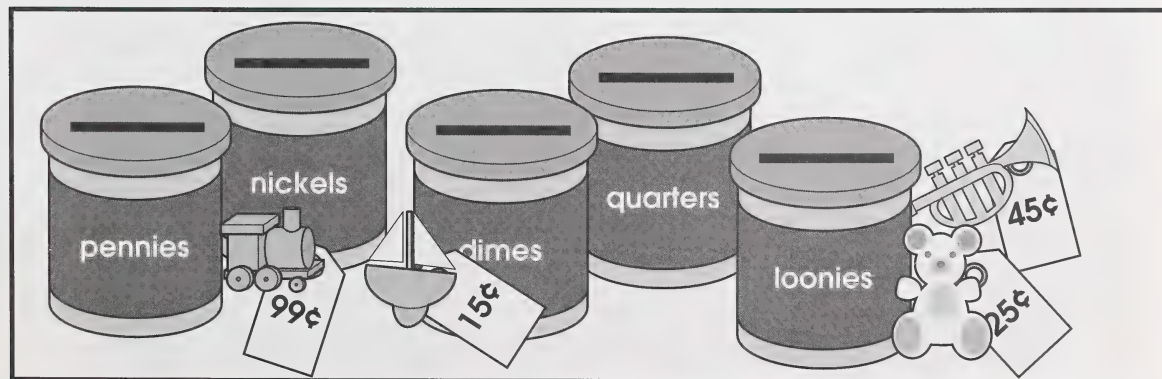Williams, Vera. *A Chair for My Mother*. 1982.

Number Concept Manipulatives (Place Value)
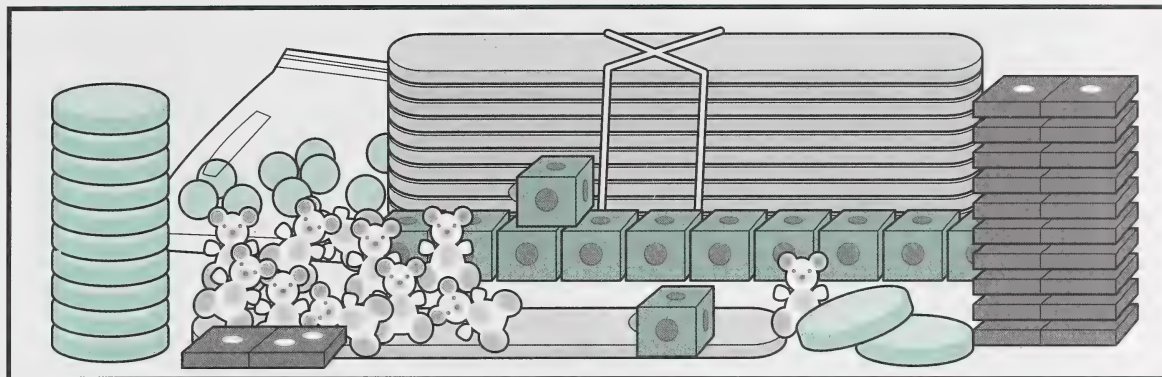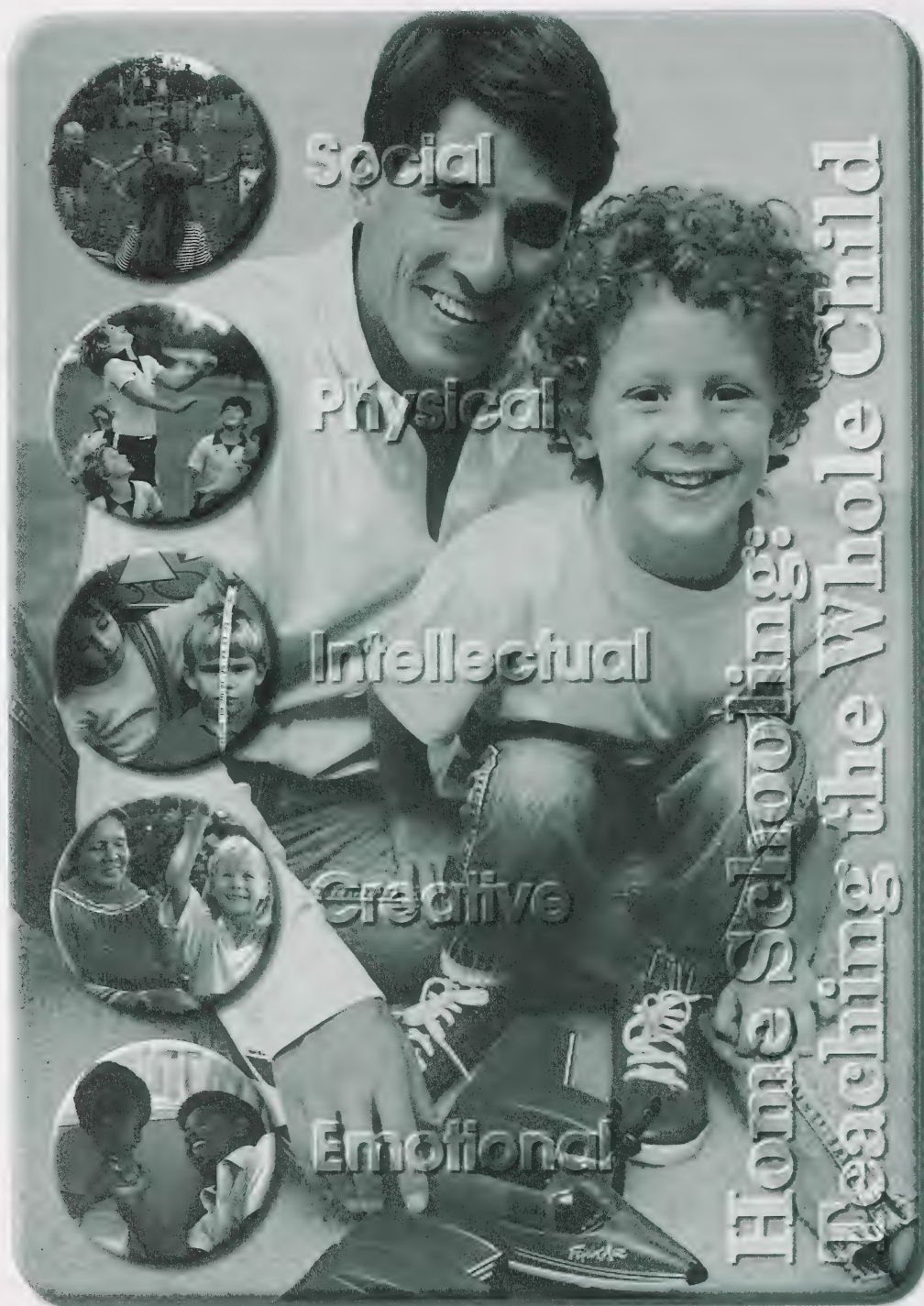

Measurement Concept Manipulatives (Time and Temperature)
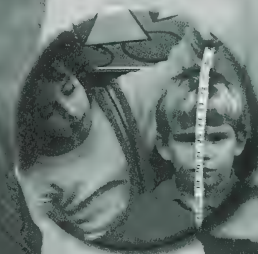

Measurement Concept Manipulatives (Money)

Social

Physical

Intellectual

Creative

Emotional

Home Schooling: Teaching the Whole Child

Day 1

Calendar Time

Time recommended: 10 minutes

If your student is enrolled in the accompanying Grade One Thematic program, you will already have completed Day 1 Calendar Time before turning to this Mathematics Module 7 booklet. In that case, proceed directly with the remainder of Math Time.

If your student is not enrolled in the accompanying Thematic program, then refer to the Calendar Package for further information before proceeding with today's lesson.

Focus for Today

Time recommended: 45 minutes

- understanding the concept of 100
- counting, by groupings of ten, up to 100
- stating known information about 100

Vocabulary (spoken only)

Look for the following words throughout today's lesson. These words are used in context and, if introduced to the student, are spoken only, so it is not necessary to review the list with the child. Students at this level are not required to read, spell, or write these words, with the exception of the number words from zero to ten.

|		
estimate/estimates	close	group/groups
actual	train	

Materials Required

Certain materials are required on a regular basis throughout the Grade One program. These are the basic school supplies, such as pencils, paper, glue, and scissors. If your student is not registered in the accompanying Grade One Thematic program, then prepare a box containing these materials for your use during the Grade One Mathematics program.

**Materials**

Home Instructor's Manual
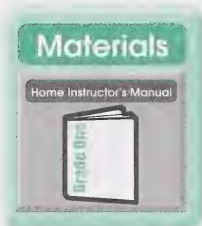
> See the Home Instructor's Manual for further information on the Master List of Required Materials.

- box containing required materials from the master list

- collections of 100 items, for example, bingo chips, old keys, buttons, playing cards, and small toys

- interlocking cubes or a suitable substitute

- string or yarn

- *The Wolf's Chicken Stew* by Keiko Kasza (optional)
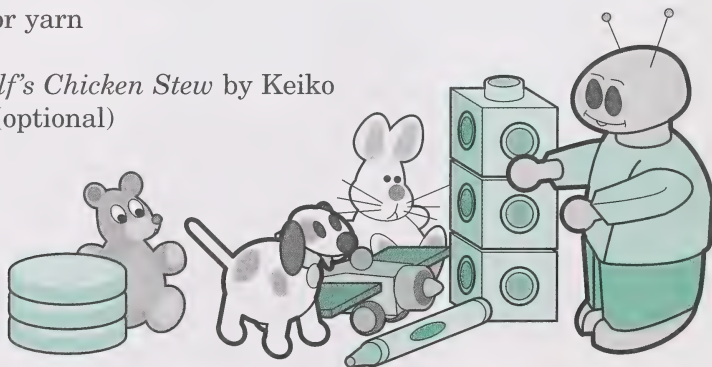
Developing the Concept

Today the student will begin to understand how many items make 100. Set out ten small items, and say the following.
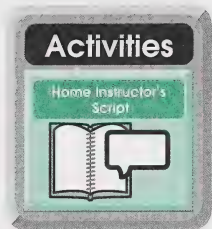
How many items do you think are here?

Help the student record the **estimate** on a paper or chalkboard. Then have the child count the items and compare the estimate to the **actual** amount. Continue with the script.

You have counted 10 items.

How **close** was your **estimate** to the **actual** amount? Help the child as necessary.

Next, set out 100 small items, and ask the following.

How many items do you think are here now?

Again, record the child's estimate. Then have the student help you group the items by tens and begin to count them.

After a few groups have been counted, ask whether the child would like to change the original estimate. If so, record it.

Count from the beginning again, continuing to group the items by tens. Record the actual amount.

Then compare the two estimates with the actual amount. Use the following script to guide your discussion.

We have counted 100 items.

### How **close** were your **estimates** to the **actual** amount?

Help the student answer by grouping the estimated number by tens and ones and then counting the difference between the estimated and the actual numbers.

Applying the Concept

Show the student a **train** of ten interlocking cubes. Have the child estimate how many cubes are in the train.

I wonder how many cubes there are.
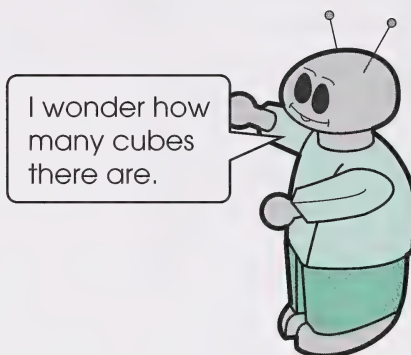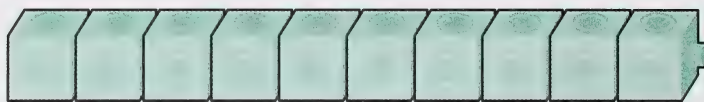
Record the estimate, and ask the student to count the actual amount. Discuss any difference between the two numbers.

9 **10**
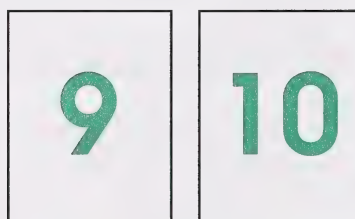
Place the train of ten on a masking-tape base line on the floor.
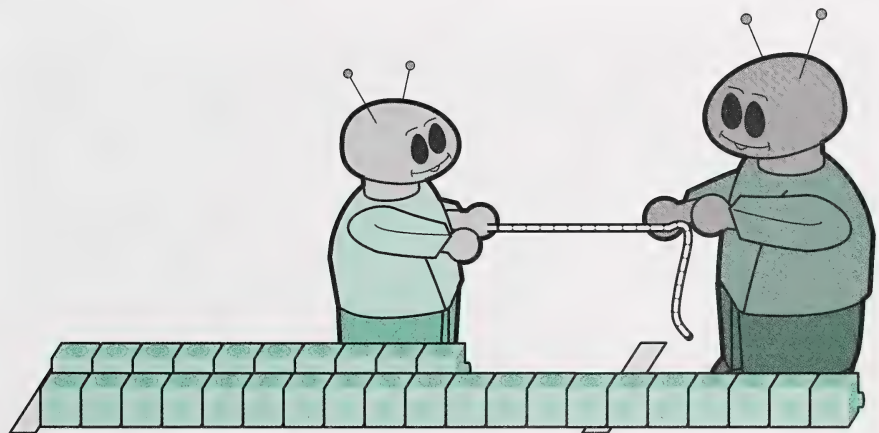
base line

Ask the student to consider how long a train of 20 interlocking cubes would be, based on the length of ten interlocking cubes. Use masking tape to mark the estimated length.
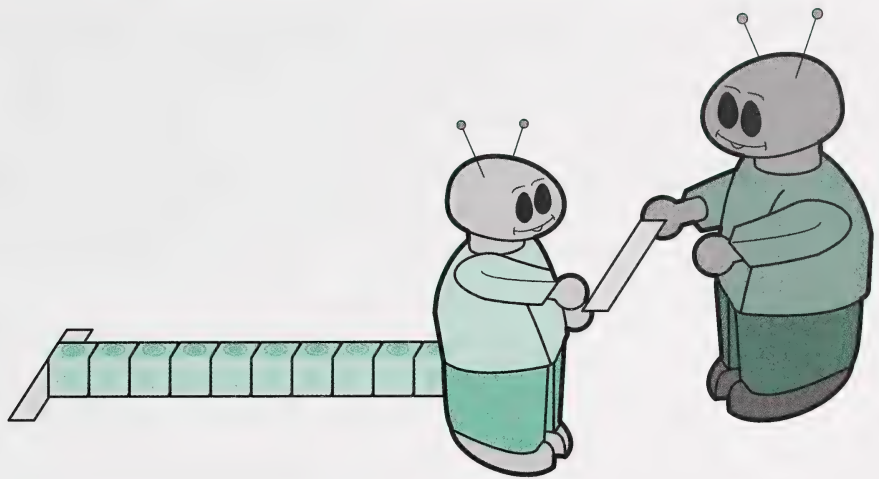
Have the student construct a train from 20 interlocking cubes and align it with the base line, alongside the original train of ten.

Compare the estimate to the actual length. Use a ball of string or yarn and a pair of scissors to help the student measure the difference between the estimate and the actual measurement. Cut the string this length, and place it between the two points of measurement.

Next, ask the student to consider how long a train of 100 interlocking cubes would be. Guide the child as follows.

There is a **train** of 10 cubes and a **train** of 20 cubes sitting on the base line.

How long do you think a **train** of 100 cubes would be?

Use the masking tape to mark your **estimate**.

Now, snap together 100 cubes to make a **train**. Allow the child to join the cubes in any colour order. Give assistance as required.

How **close** was your **estimate** to the **actual** measurement?

Again, help the child use a ball of string and a pair of scissors to measure the difference between the estimated and actual measurements. Cut the string accordingly, and place it between the two points of measurement.

Challenge the student to explore how the cubes could be joined to more easily determine how many cubes make the train. Use the following dialogue to guide your discussion.

You can see the length of a **train** with 100 cubes.

Is there a way to join the cubes to see more easily whether you have 100 cubes in your **train**?

If the student has no suggestions, demonstrate how to arrange the cubes into ten different-coloured groupings of ten. Show how the groupings help to quickly identify how many cubes make up the train.

Discuss what the student has learned about 100. Record the child's observations on a sheet of paper entitled **What I Have Learned About 100**.

What I Have
Learned About
100

Materials

Student Folder

123
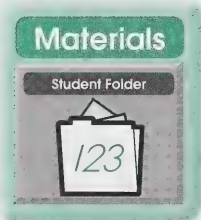
Have the student print first and last names and the abbreviated form of the module and day numbers, M7D1, on the back of the page. Place this page in the Student Folder.

Enrichment (optional)

Enrichment activities are always optional. If you think at this point that the student needs extra help or a challenge, you may postpone the final assignment and Learning Log until after one or more of these activities.

Note: Use of these optional activities may require you to pace the student's progress in the rest of the module to accommodate special needs. For example, you may delay the final assignment until the student is ready for it. In that case, review the day's work before your student does the assignment.

1. More Groupings of 100

Use materials such as a few of the following, in sets of 100:

- different-coloured bingo chips
- old keys
- buttons
- playing cards
- small toys

- socks
- coins
- cutlery
- stickers
- paper shapes

Have the student arrange the collections of 100 into groupings to easily see how many without having to count each item.
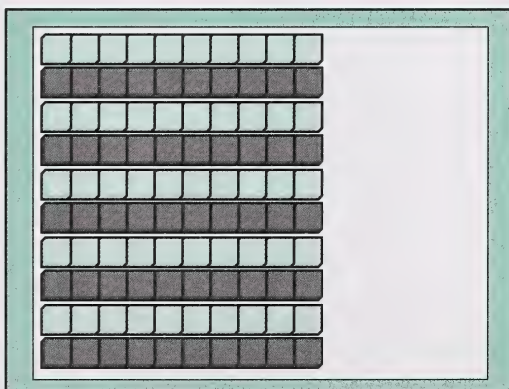

You could provide a variety of items that can be arranged into groups of four, five, ten, and twenty, for example. Challenge the student to arrange various groupings and then count the groups that make 100. For an extra challenge, include items that can be arranged into groups of 25 and 50.

2. Estimate How Far

Ask the student to estimate how far 100 heel-to-toe steps would go. Record the estimate, and then have the child do the actual activity. Compare the estimate with the measured distance.

Challenge the student to estimate and check how far 100 heel-to-toe steps of other family members would go, as well. If necessary, point out the differences in people's foot sizes to help with these predictions.
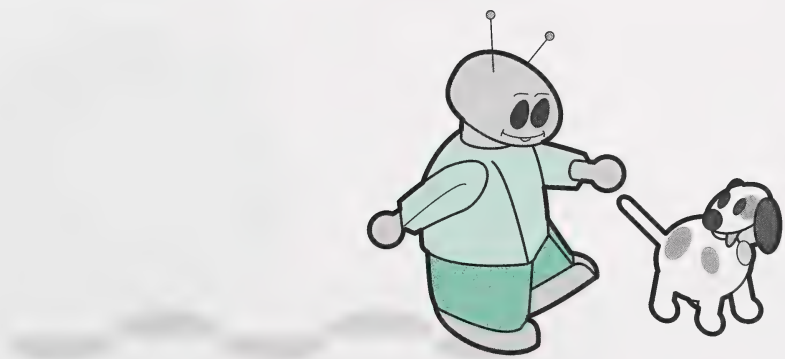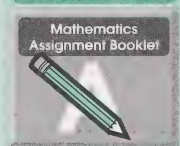

3. A Book About 100

You could read the book *The Wolf's Chicken Stew* by Keiko Kasza. This book is about a hungry wolf's efforts to fatten a chicken for his stewpot—with 100 pancakes, 100 doughnuts, and 100-pound cakes. Unexpected results occur.
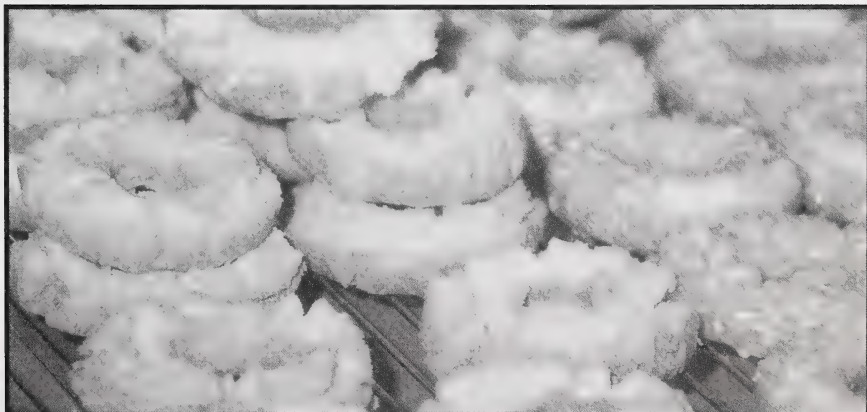
Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do the assignment for Day 1.

Then complete Day 1: Learning Log. Under Student's Thoughts, help the student print a sentence or two telling what the student thinks about this day's mathematical learning. For example, was it easy to estimate the number in a group?

End of Day 1
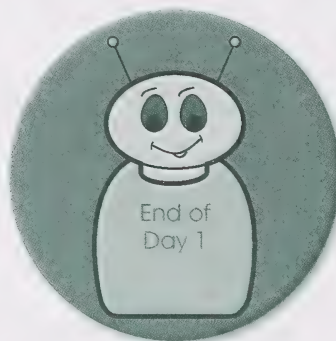
Day 2

Calendar Time

Time recommended: 10 minutes

If your student is not registered in the accompanying Thematic program, refer to the Calendar Package for further information.

Focus for Today

Time recommended: 45 minutes

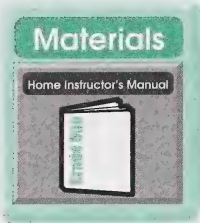- identifying number patterns from 0 to 100
- counting from 0 to 100

Vocabulary (spoken only)

patterning	bridging	key in
sequence	calculator	connect
pattern/patterns	calculator screen	lines
principles	clear	

Materials Required

- box containing required materials from the master list (See the Home Instructor's Manual.)

- Hundred Chart from the Appendix of the Home Instructor's Manual

- collection of small counters, such as bingo chips or pennies

- calculator

- ten strips of paper, each approximately 5 cm by 100 cm, such as adding-machine tape (optional)

- piece of cardboard large enough to fit the ten paper strips (optional)

- approximately 20 different small items (optional)
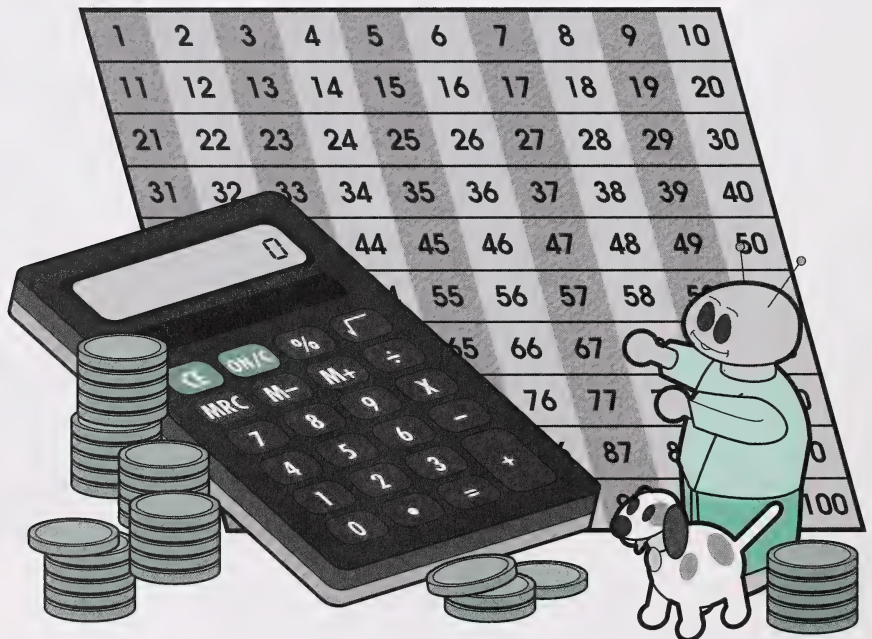
Developing the Concept

Today, your student will continue counting from 0 to 100.

Knowledge of **patterning**, or the repetition of a **sequence**, will help the student count. There are no **patterns** within the first ten numbers, zero to nine. The child has been learning these number names by modelling others who know and use them in everyday situations.

Number patterns exist only among the numbers from ten onward.

10	20	30	40	50	60
11	21	31	41	51	61
12	22	32	42	52	62
13	23	33	43	53	63
14	24	34	44	54	64
15	25	35	45	55	65
16	26	36	46	56	66
17	27	37	47	57	67
18	28	38	48	58	68
19	29	39	49	59	69

70	80	90
71	81	91
72	82	92
73	83	93
74	84	94
75	85	95
76	86	96
77	87	97
78	88	98
79	89	99

I see a **pattern**.
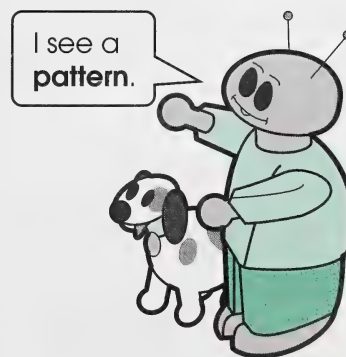
Activities

Teaching Tip

You might not remember learning to count, but watching your student's efforts may remind you how understanding varies and develops sequentially over the years. The counting process is based on four **principles**.

- There is a one-to-one correspondence between the numbers and objects being counted.

- Number names must be used in a fixed order every time objects are counted.

- You can start counting with any object in a set.

1, ...

- A number name applies not only to the last object counted but also to the whole set of objects.

1, 2, 3, 4, 5, 6. There are 6 things in this set.
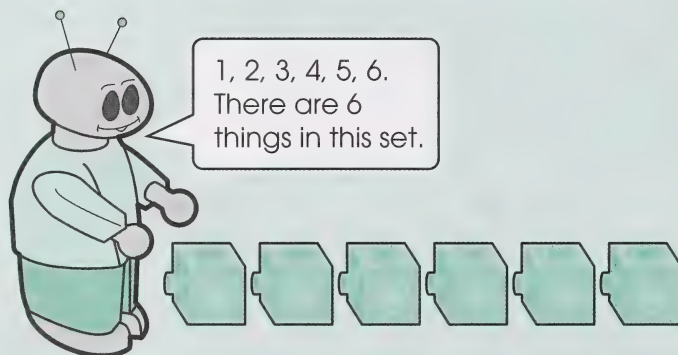
Observe how your student uses these principles, so you can identify and help fix counting errors. Comment later in today's Learning Log. Note also whether the child slows down, hesitates, or stops counting.

Bridging to the next group of ten is one of the most common problem areas. For example, the student may have difficulty counting from numbers such as 10 to 11 or 19 to 20.

Materials

Home Instructor's Manual
Grade One

Activities

Home Instructor's Script
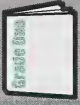
Remove the Hundred Chart from the Appendix of the Home Instructor's Manual. Read the chart together a few times while the student points to each number with the top of a pencil. Guide with the following script.

> Help me read the numbers on this chart.
>
> Point to each number when we say it.

Discuss and correct any errors, so that the student learns to identify the spoken number with the correct written number.

Review that a **pattern** is the way in which colours, shapes, lines, numbers, sounds, or actions are repeated in the same order. Encourage the student to look for patterns inside and outside, using the following song, adapted from the original "Going on a Bear Hunt."

Home Instructor
You're goin' on a **pattern** hunt,

Student Response
Goin' on a **pattern** hunt,

Home Instructor
But you're not afraid.

Student Response
But I'm not afraid.

Home Instructor
Got your keen eyes

Student Response
Got my keen eyes

Home Instructor
And your notepad by your side.

Student Response
And my notepad by my side.

Home Instructor
Do, do you see a **pattern**?

Student Response
Yes, yes, I see a **pattern**.

Home Instructor
Share, share it with me.

Student Response
Pattern, **pattern** I see is _____.[1]

Have the student describe the parts of the pattern.

Next, take turns creating patterns and having the other person identify and extend the patterns. Include at least one example of each type that follows.

Colours

Shapes

Lines

Numbers 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3

Sounds clap stamp clap stamp clap stamp clap stamp

Actions jump wave jump wave jump wave jump wave

Then redirect the student's attention to the hundred chart, and ask the following question.

Do you see any patterns in the number chart?

---
[1] Michael Rosen, *We're Going on a Bear Hunt* (London: Walker Books Ltd., 1993).

Help identify the following patterns.

0	1	2	3	4	5	6	7	8	9	100
10	11	12	13	14	15	16	17	18	19	
20	21	22	23	24	25	26	27	28	29	
30	31	32	33	34	35	36	37	38	39	
40	41	42	43	44	45	46	47	48	49	
50	51	52	53	54	55	56	57	58	59	
60	61	62	63	64	65	66	67	68	69	
70	71	72	73	74	75	76	77	78	79	
80	81	82	83	84	85	86	87	88	89	
90	91	92	93	94	95	96	97	98	99	

Once more, count from the beginning of the Hundred Chart, and then let the student count alone. Give the following instructions.

> Let's read the whole chart together once more.

> Now, read the chart by yourself.

Continue to help as required.

Then use small counters such as bingo chips or pennies to randomly cover ten numbers on the chart. Instruct as follows.

> I have covered ten numbers on this chart.

> Start at the beginning of the chart, and uncover one number at a time.

> Say the name of each number that you uncover.

As an example, uncover the first number and state its name.

Take turns covering ten numbers on the Hundred Chart and checking to see that each covered number is identified correctly. Discuss and correct any errors.

Display the Hundred Chart in your learning area for use in future activities.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
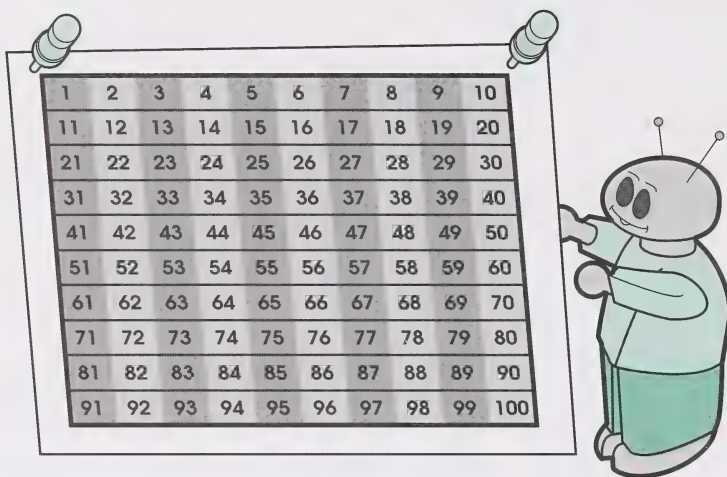
Applying the Concept

What's My Number?

Ask the student to key in two numbers on a calculator and identify the resulting number. Use the following script.

On your **calculator**, press the number 1 and then the number 0.

What number do you see on your **calculator screen**? (10)

Now, press the **Clear** button.

Key in the number 1 and another number 1.

Now what number do you see on the **calculator screen**? (11)
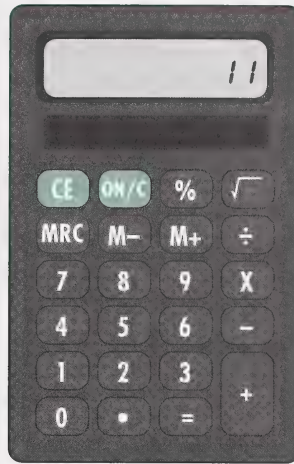
Take turns keying in and identifying approximately 20 numbers from 12 to 50. Help the student as required.

Enrichment (optional)

1. Number Strips

For this activity, you will need the following:

- ten strips of paper, each approximately 5 cm by 100 cm
- a piece of cardboard large enough to fit the ten paper strips

Step 1: Divide each strip into ten segments by folding or marking lines with a pencil to represent one set of ten numbers, for example, 0 to 9 or 30 to 39. On the appropriate square of each strip, randomly print two numbers to show the child which strip represents each set of ten.
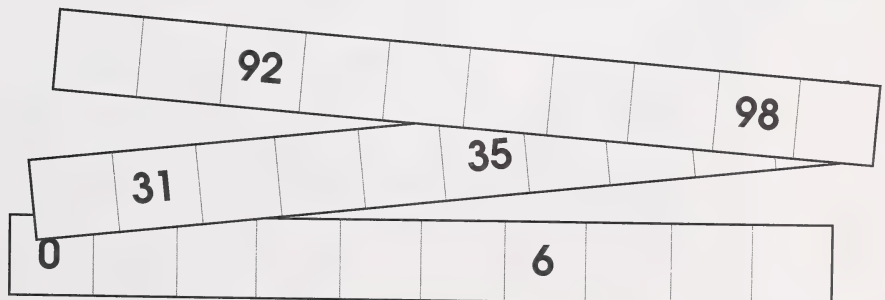
Step 2: Have the student fill in the blank squares with the correct numbers.

0	I				6			
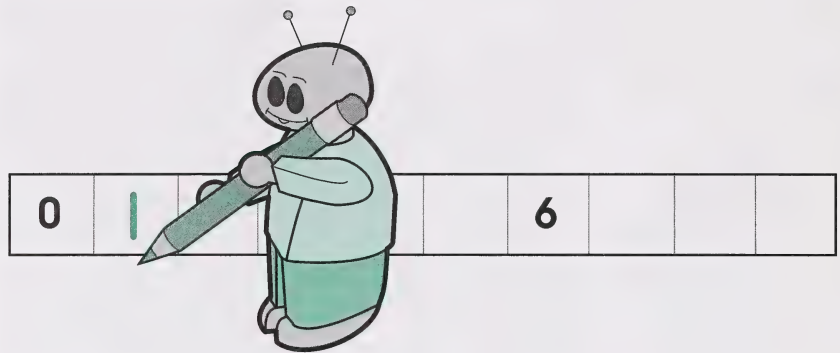
Step 3: Check the child's work, and then place the strips on the large piece of cardboard in the correct order.

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49

For each strip that is completed correctly, make a coloured star at the end of the strip. Immediate, positive, and specific feedback is the most effective form of reinforcement for learning.

2. What Number is It?

For this activity, you will need the following:

- approximately 20 different small items
- 50 blank index cards cut in half

Step 1: Get the student to help you print the numbers from 1 to 100 on the index-card sections.
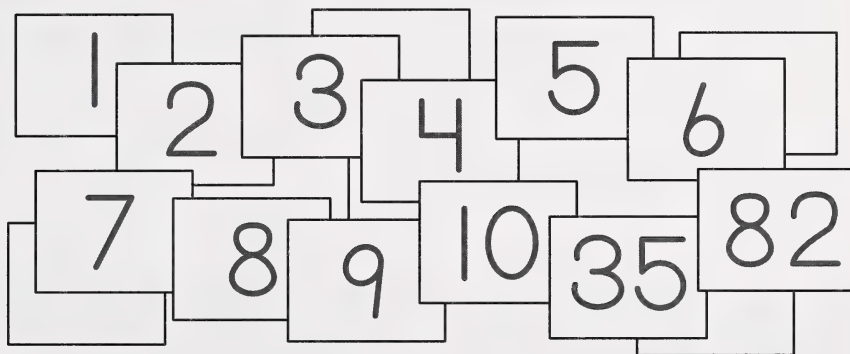
Step 2: Focus the student's attention on sequences of numbers that cause problems, and encourage the child to organize objects and numbers accordingly. For example, if the student has difficulty with the range of numbers from 60 to 70, the arrangement might look like the following one.
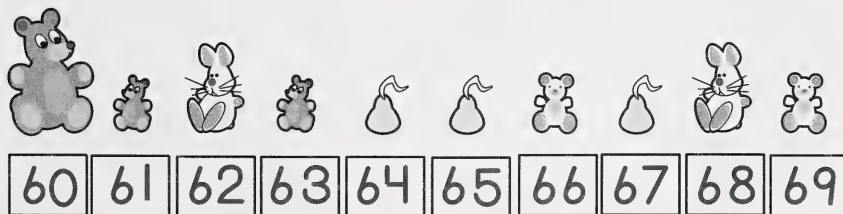
Step 3: Ask questions similar to the following:

- What number is the big teddy bear?
- What object is number 66?
- What numbers are the two rabbits?
- What three numbers have the same object?

3. Number Scramble

Mix up the number cards from the previous activity. Challenge the student to place the cards back in order.
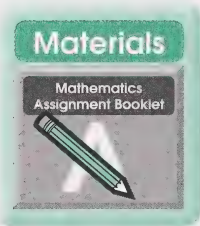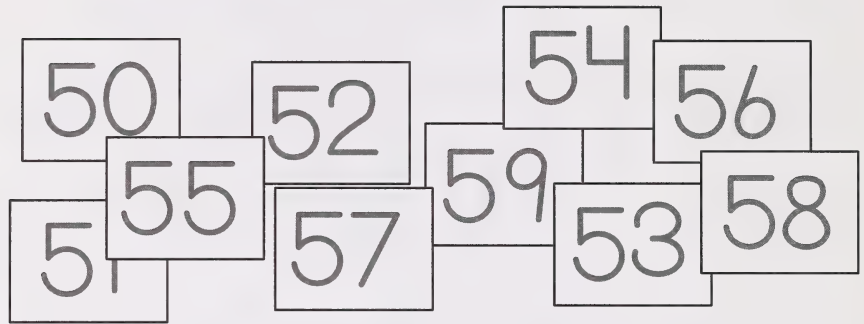
50 52 54 56
55 59 53 58
51 57 53

Materials

Mathematics
Assignment Booklet
A

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 2: Assignment 1.

Next, follow the directions to do Day 2: Assignment 2.

Then complete Day 2: Learning Log. Under Student's Thoughts, help the student complete the rating scale and explanation.

End of
Day 2
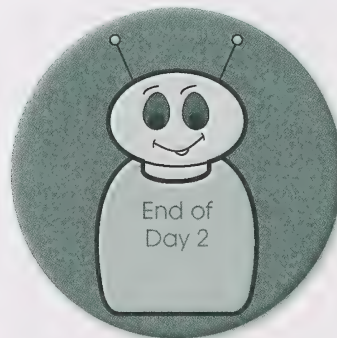
Day 3

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- estimating, counting, and comparing objects to 50
- grouping to aid the counting process

Vocabulary (spoken only)

fifty (50)	ones
estimate	column
place value	approximately
tens	

Materials Required

- box containing required materials from the master list

- 50 interlocking cubes or other small counters

- transparent plastic bags

- 0 to 50 number cards made from blank index cards (You may have made a set in Day 2.)

- small, dry food ingredients, such as raisins, peanuts, shelled sunflower seeds, and ring-shaped cereal (optional)

- small containers, such as plastic cups (optional)

- large bowl (optional)

- large spoon (optional)
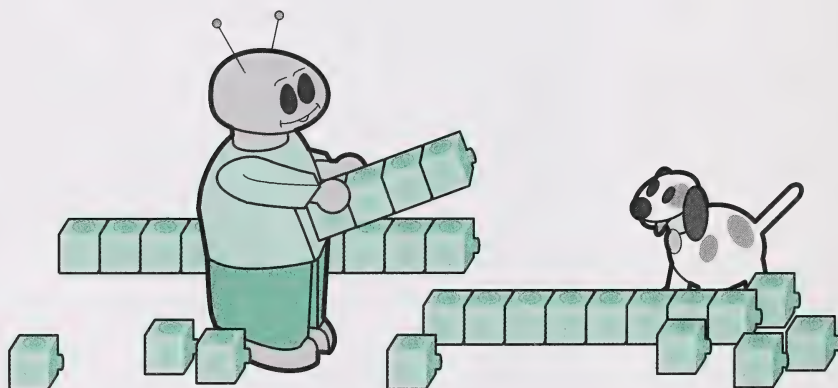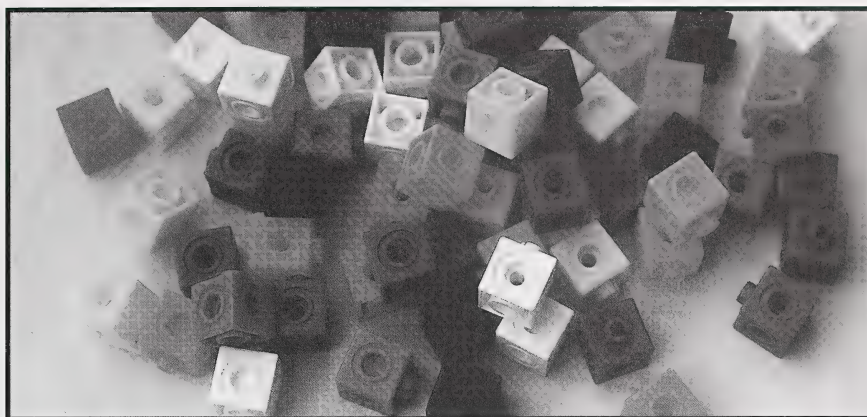
Developing the Concept

Place **50** interlocking cubes or other small counters into a transparent plastic bag. Ask the following questions.

Activities

Home Instructor's Script
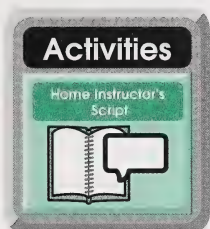
How many cubes do you think are in this bag?

Record the child's **estimate**.

What makes you think that?

How could you find out how many cubes there are? Discuss the child's ideas. Suggest counting, if necessary. Then help the student count the cubes.

Activities

Teaching Tip

Today, observe how your student estimates numbers. Does the child do any of the following?

- appear to guess
- have a systematic way of estimating
- base an estimate on previous ones
- show improvement with practice in estimating

Take turns placing different numbers of up to 50 cubes in the bag, estimating and recording the amount, and then doing the actual count. Encourage the student to sort the cubes into groups of ten for ease in counting.

Applying the Concept

Tens and Ones

Use the number cards made during Day 2, Enrichment, or have the student help you print the numbers from 0 to 50 on halved, blank index cards.
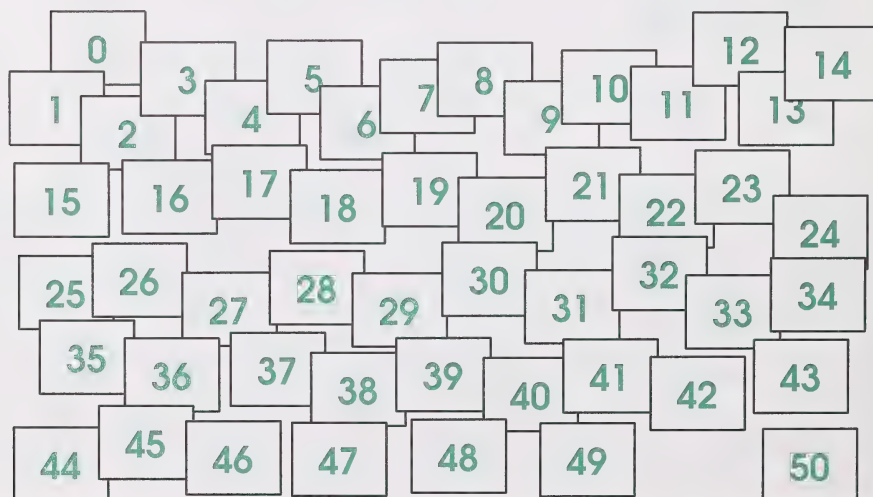
Use construction paper to make a mat showing **place value** for **tens** and **ones**, similar to the one that follows.
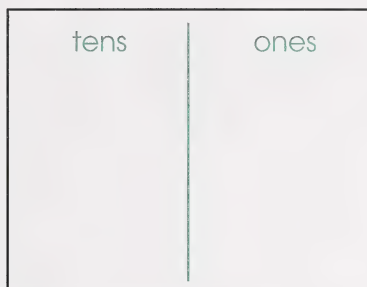
Shuffle the number cards, and place them face down in front of the student.

Have the child choose the top number card and use interlocking cubes to show that number on the place-value mat. For example, if the number chosen is 42, guide the student to place four groups of ten cubes in the tens **column** and two cubes in the ones column.
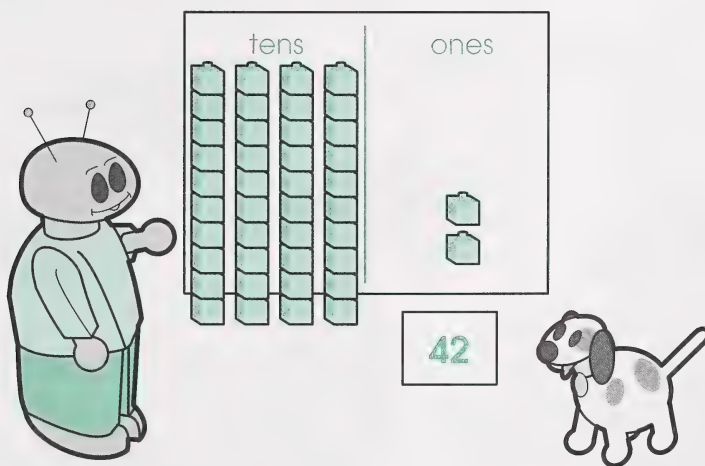
Take turns choosing cards and using interlocking cubes to make the numbers. Check each other's work for correctness. Occasionally, make an intentional error so that your student will have an opportunity to correct your mistakes.

Continue this activity until you and the student have each made **approximately** ten numbers.

Enrichment (optional)

Trail Mix

Note: Be certain that your student is not allergic to peanuts or other ingredients before making or eating this snack.

For this activity, gather the following supplies:

- raisins, sunflower seeds, cereals, shelled peanuts, or other small, dry edibles (You could add chocolate chips or small marshmallows for counting fun, if you choose.)

- small containers, such as plastic cups

- large bowl and spoon

Step 1: Ask your student to use numbers up to 50 to decide how many of each ingredient should be added to the recipe. For example, the child may choose to add 42 raisins, 50 pieces of cereal, 35 sunflower seeds, and 26 shelled peanuts.
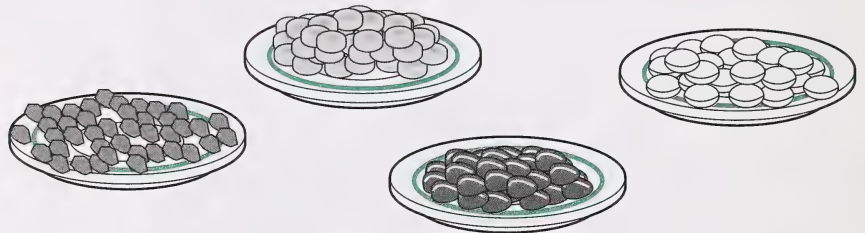
Step 2: Help the student record the recipe. Then read it over, clarifying the number to be counted out for each ingredient.

Trail Mix
42 raisins
50 pieces of cereal
35 sunflower seeds
26 shelled peanuts

Step 3: Have the student count out the ingredients into small containers that hold groups of ten items each. Then discuss the proportions with the following questions.

What do you have the most of?

What do you have the least of?

Which ingredient will take up the most space?

Do you have enough of each ingredient?

Do you have too much of any one ingredient?

How could you make it so that each ingredient has the same number? (Add more of some ingredients until there are 50 of each.)

Step 4: Add all the ingredients to the large bowl and mix together. Enjoy!
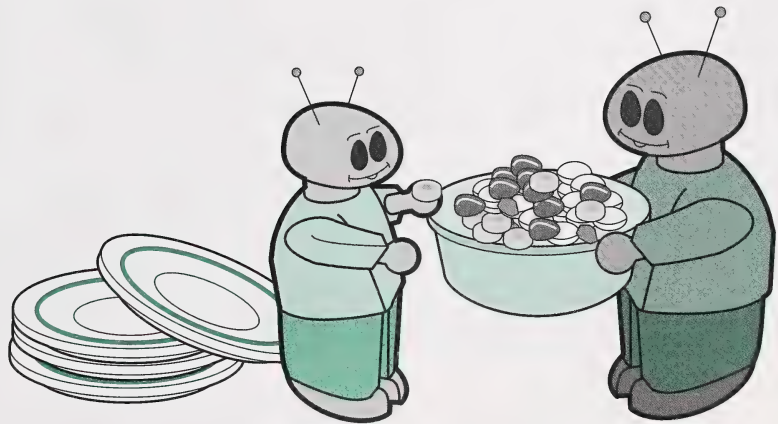
Materials

Mathematics
Assignment Booklet
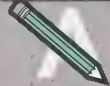
Turn to Mathematics Assignment Booklet 7A, and follow the directions to do the assignment for Day 3.

End of
Day 3
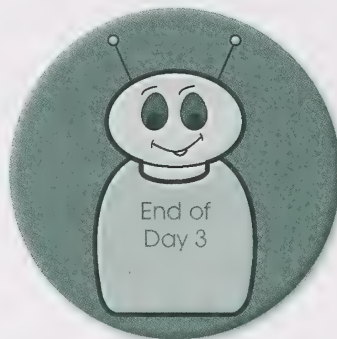
Day 4

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- developing a sense of *how many*
- counting and recording collections of up to 50 items

Vocabulary (spoken only)

more	fewest	estimate
fewer	most	count
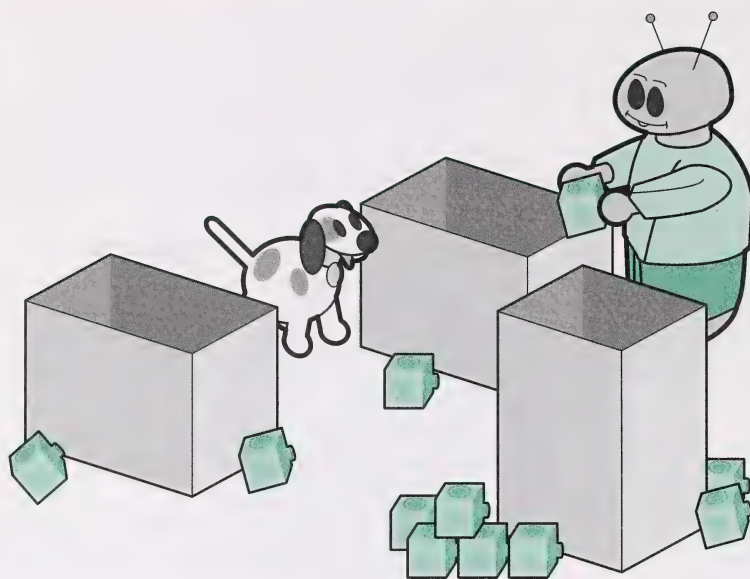
Materials Required

- box containing required materials from the master list

- interlocking cubes or other small counters

- three containers of various sizes, for example, boxes, bowls, or plastic containers (Choose containers that will hold no more than 50 of the small counters.)

- two piles of about 50 small items each, such as raisins or sunflower seeds

I wonder how many cubes will go in this box.
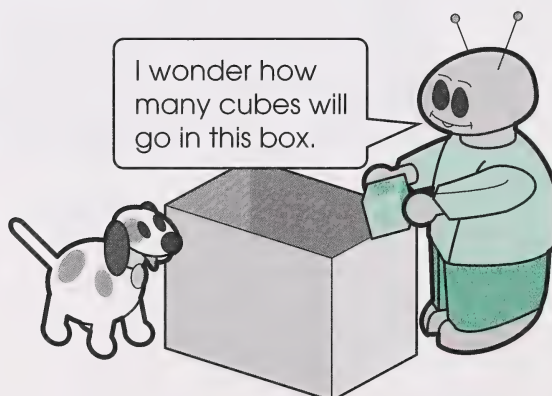
Developing the Concept

Set out two empty containers and a pile of interlocking cubes or other small counters.
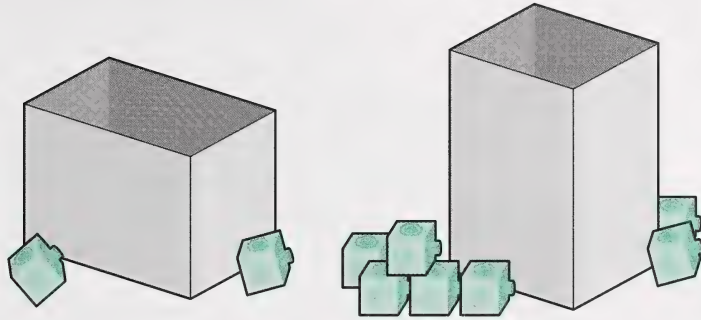
Label a blank index card with the words **holds more** and ask the following questions to guide your discussion.

Activities
Home Instructor's Script
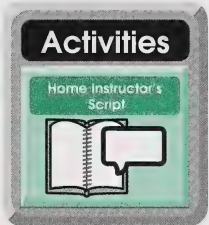
Which container do you think holds **more**?

Place the sign that says *holds more* in front of this container.

Why do you think that? Discuss.

How could you find out which container holds **more** cubes and which one holds **fewer**?

Discuss the student's suggestions, and have the student try them out. Mention filling each container with interlocking cubes, if the student does not suggest this. The child should fill each container as full as possible but make sure that a piece of loose-leaf paper can still be laid flat across the top.
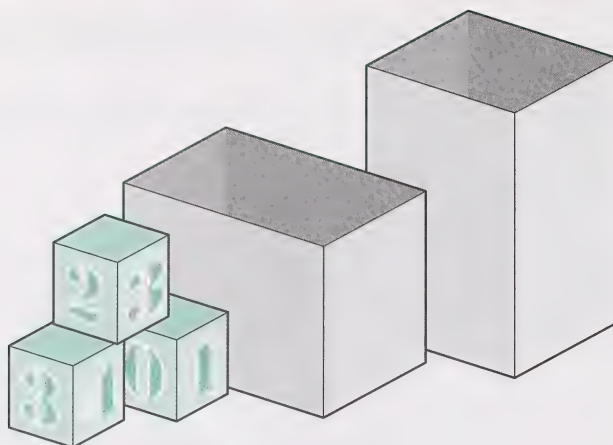
Next, empty the containers and count how many cubes were in each. Ask the student to draw and label pictures to record the amounts.

46

36
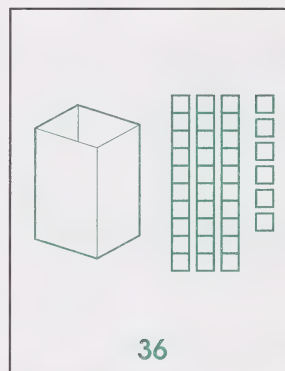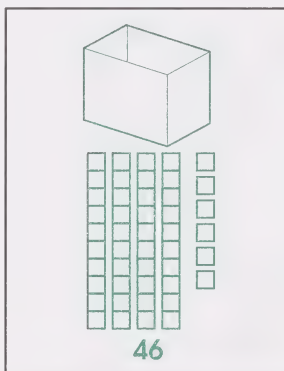
Applying the Concept

Place a third container in front of the student along with the first two containers, and ask which one of the three containers will hold more. Again, have the student put the card labelled *holds more* in front of the appropriate container.
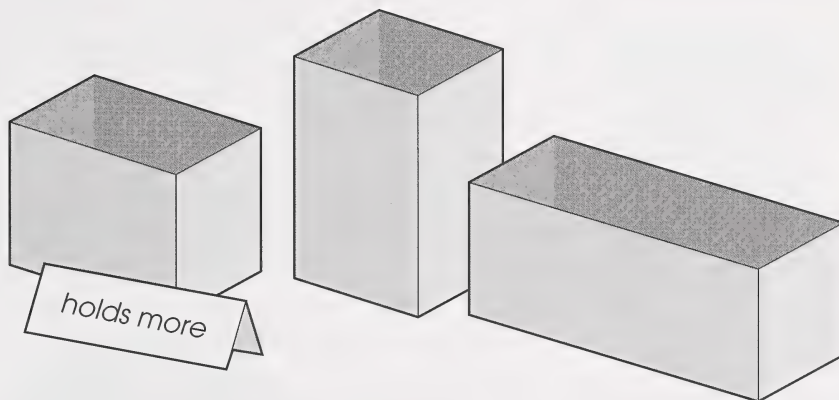
Ask the student to follow the earlier procedure of filling the new container with interlocking cubes and recording the actual count. Have the student draw and label a picture for this container as well.

Compare the three recording sheets by asking the following questions.

Which container holds the **fewest** cubes?

Which container holds the **most** cubes?

46

36

50

Materials

Student Folder

123
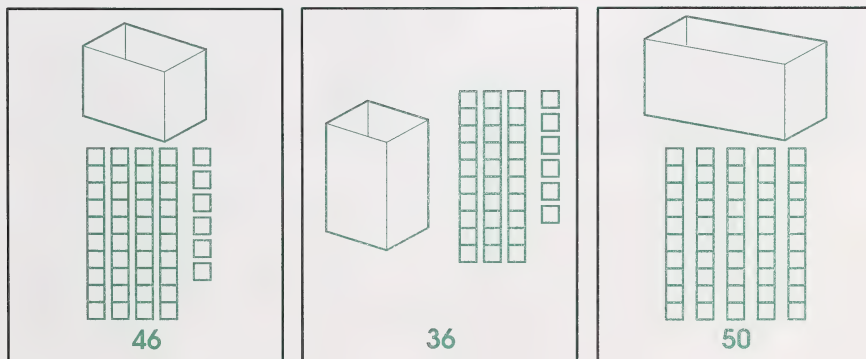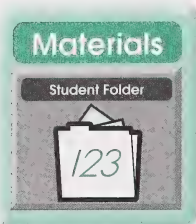
Staple the three recording sheets together, and have the student print the usual information on the back page—full name and the abbreviated form of the module and day numbers, M7D4. Place these pages in the Student Folder.
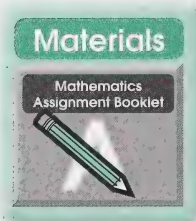
Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 4: Assignment 1.

Next, follow the directions to do Day 4: Assignment 2.

End of
Day 4

Day 5

Activities
Calendar Time
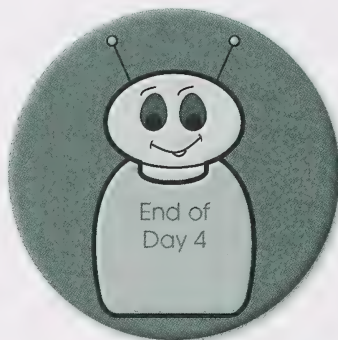
Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- identifying numbers before, after, and between given numbers
- counting forward from a given number
- identifying number patterns to 100.

Vocabulary (spoken only)

before	between
after	counting forward
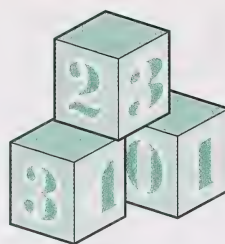
Materials Required

- box containing required materials from the master list

- assortment of the student's personal items, such as blocks, stuffed animals, and school supplies

- Hundred Chart (previously used on Day 3)

- 0 to 50 number cards that were made on Day 3

- 30 small, flat counters, such as bingo chips (optional)
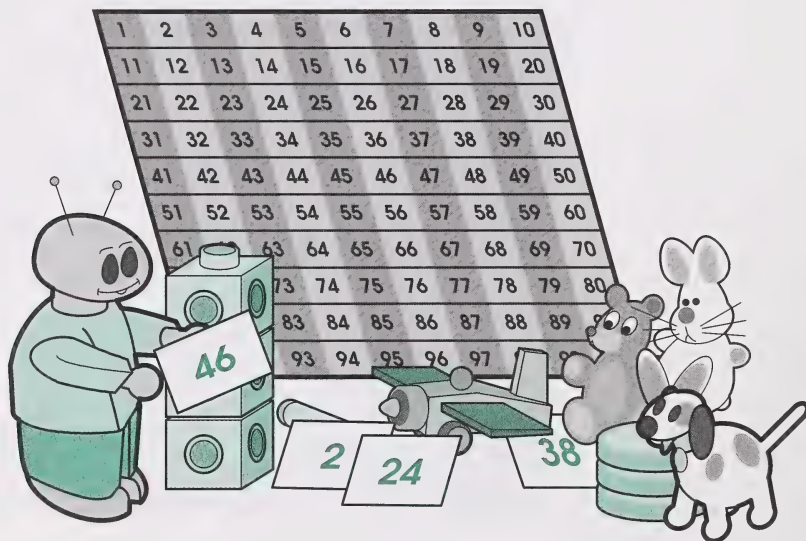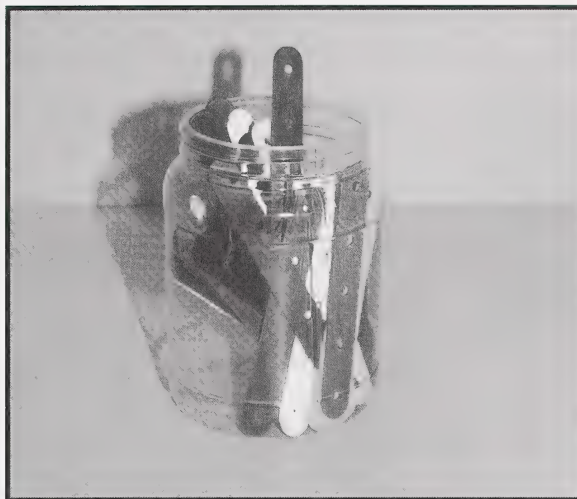
Developing the Concept

Today, the student will identify numbers **before**, **after**, and **between** given numbers and review a counting strategy called **counting forward**.

When asked to count forward, the child can begin at any number and say the subsequent number names in order.

4, 5, 6, 7, 8, 9, …

Activities

Teaching Tip

Counting forward reveals many patterns and is essential for addition.

Before counting forward, it is important that the child is able to place personal and tangible items according to the terms **before**, **after**, and **between**.

If your student experiences difficulty with these terms, continue to expose the child to them whenever possible.

Place three objects in a row. For example, you could place a block, teddy bear, and pencil. Then ask the following questions.

Activities

Home Instructor's Script
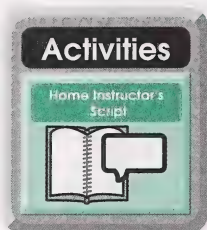
Which object comes **before** the teddy bear?

Which object comes **after** the teddy bear?

Which object is **between** the block and the pencil?
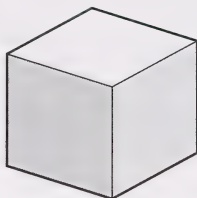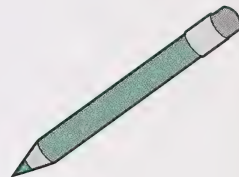
| before | between | after |

For about five minutes, take turns placing three objects in a row and asking each other these three questions. Check each other's answers. Occasionally, make a mistake so that your student can correct and discuss the error.

Ask where the student has seen numbers in order. The child might list places such as telephones, calendars, computer keyboards, calculators, and clock faces.

10:48 33

September

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	S
					1	
3	4	5	6	7	8	
10	11	12	13	14	15	
17	18	19	20	21	22	
24	25	26	27	28	29	

11

CE	ON/C	%	√
MRC	M−	M+	÷
7	8	9	X
4	5	6	−
1	2		
0	.		

Place the Hundred Chart in front of the student. With the top of your pencil, point to the number 25 and say the following.

I am pointing to the number 25.

What number comes **before** it? (24)

What number comes **after** 25? (26)

You have told me that the number 24 comes **before** the number 25.

You have also told me that the number 26 comes **after** the number 25.

What number comes **between** 24 and 26? (25)

Repeat this dialogue several times with different numbers.

Applying the Concept

Place one of the 0 to 50 number cards in front of the student. Ask the child to count forward five more from the number on the card.

32, 33, 34, 35, 36, 37

32
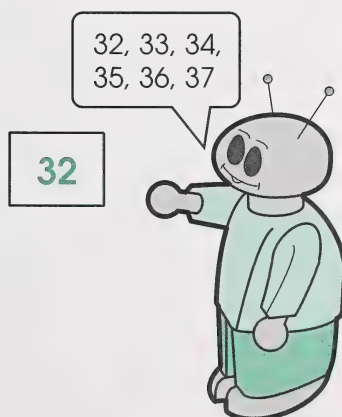
Discuss which numbers come just before and after the given number. Then ask the student which number comes between the before-and-after numbers.

> The number 31 comes **before** the number 32. The number 33 comes **after** the number 32. The number 32 comes **between** the numbers 31 and 33.

| 31 | 32 | 33 |

For about 15 minutes, take turns choosing a new card, counting forward, and identifying the before, after, and between numbers.

What numbers do you see in this picture?

Enrichment (optional)

1. Guess the Number

For this activity, you will need the Hundred Chart and approximately 30 small, flat counters.

Step 1: Randomly cover 30 numbers on the Hundred Chart.

Hundred Chart

1	●	3	4	●	6	●	●	9	10
11	12	13	14	15	●	17	18	●	20
●	22	●	●	25	26	27	●	29	30
31	32	33	34	35	36	37	38	●	40
41	42	43	●	45	●	●	●	49	50
51	●	●	54	●	56	●	58	●	60
●	62	63	64	65	●	67	●	69	●
71	●	73	74	●	●	77	78	79	80
●	82	●	84	85	86	87	●	●	●
●	92	93	94	●	96	97	98	99	100

Step 2: Start at the beginning of the chart, and ask the student to predict each number before uncovering it. For each correct prediction, the student can keep the counter. For each incorrect prediction, you can keep the counter.

Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	
31	32	33	34	35	36	37	38	39	
41	42	43	44	45	46	47	48		
51	52	53	54	55	56	57			60
61	62	63	64	65					70
71		73	74			77			
	82		84	85	86	87			
	92	93	94		96	97			00

I think this number is 66.
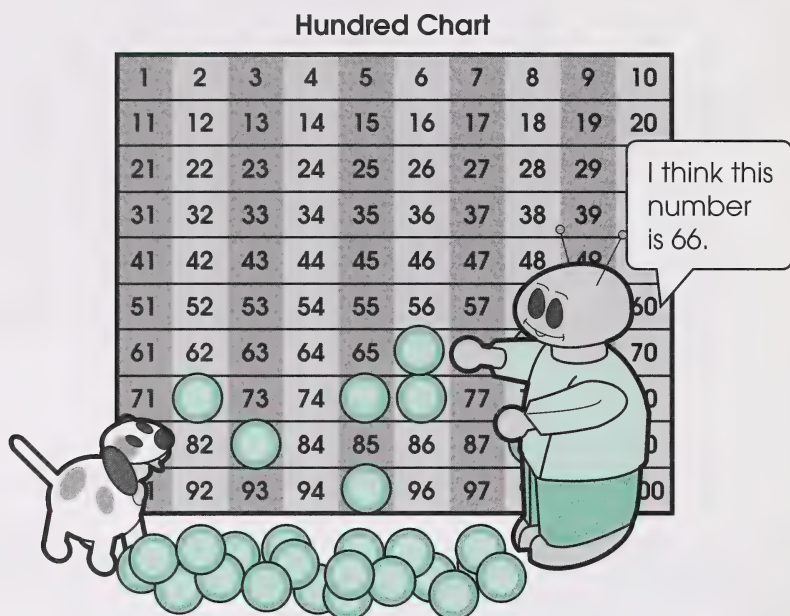
Step 3: When the student has uncovered all 30 numbers, take any counters that you may have from incorrect predictions and cover new numbers. Continue until the child has all 30 counters.
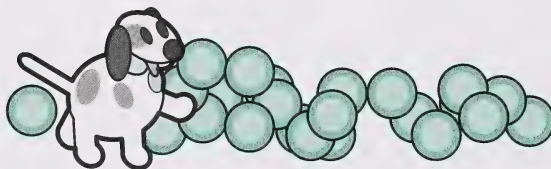
If the student predicts all the numbers correctly the first time, proceed to take turns covering new sets of 30 numbers and making predictions.

Hundred Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
	82	83	84	85	86	87	88	89	9
	93	94	95	96	97	98	99		
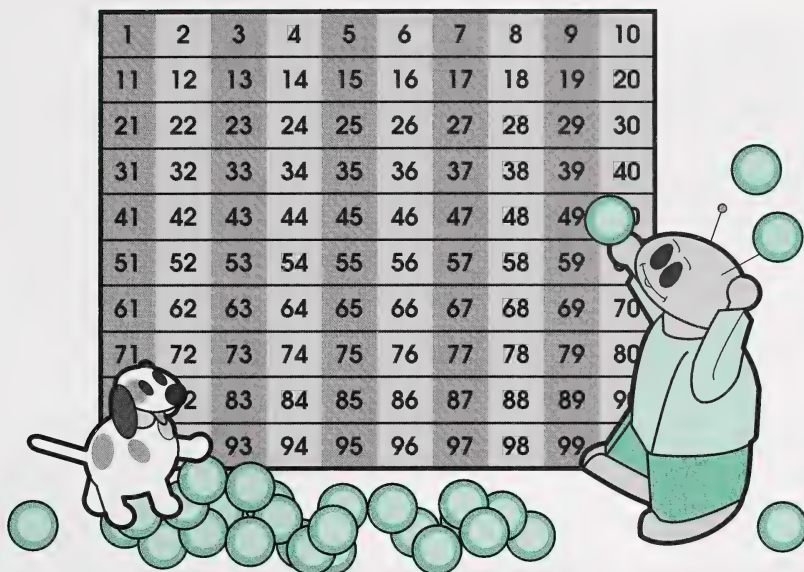
2. Number Patterns

Look at the two patterns that follow. Discuss how they are the same and different. For example, the patterns are the same because the numbers become larger as your eyes move from left to right. The patterns are different because pattern one increases by ones and pattern two increases by twos.

Pattern 1

1   2   3   4   5   6   7

Pattern 2

2   4   6   8   10   12   14

Create other number patterns for the student to compare.

Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 5: Assignment 1.

Next, follow the directions to do Day 5: Assignment 2.

Then complete Day 5: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

End of
Day 5
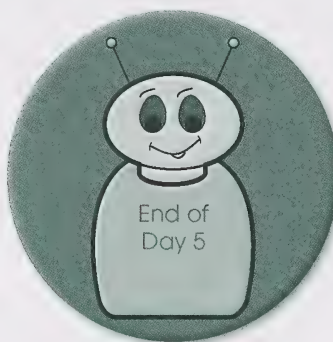
Day 6

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- identifying the greater number
- identifying the lesser number

Vocabulary (spoken only)

greater than	fewer	tens
less than	compare	ones
more	bundles	place value
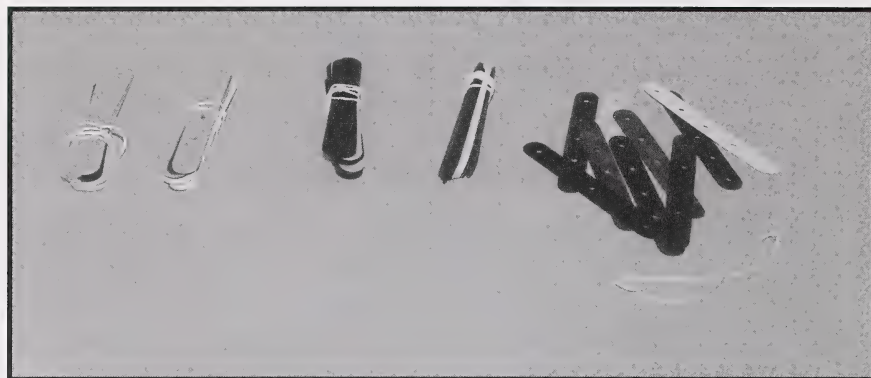
Materials Required

- box containing required materials from the master list
- at least ten elastic bands
- 200 sticks, such as wooden craft sticks or tongue depressors
- calculator
- large book or folded piece of cardboard (optional)
- 0 to 50 number cards (optional)
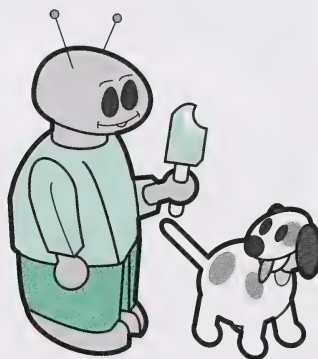
Developing the Concept

Before reviewing the concepts of **greater than** and **less than** with your student, reread the Teaching Tip in Module 1, Day 3.

Activities
Teaching Tip

The terms **greater than**, **less than**, **more**, and **fewer** recur throughout the Grade One Mathematics program. It is essential to review and apply them daily in your student's life.

Practical application of these terms is the student's most valuable learning tool. For example, **compare** the number of pieces of toast each family member has for breakfast or the number of letters received in yesterday's and today's mail.

Encourage your student to use one-to-one correspondence when comparing numbers.

As you do today's activities, you can separately line up **bundles** of ten sticks and single sticks so the student can discover which number has more or fewer bundles, or **tens**, and singles, or **ones**.
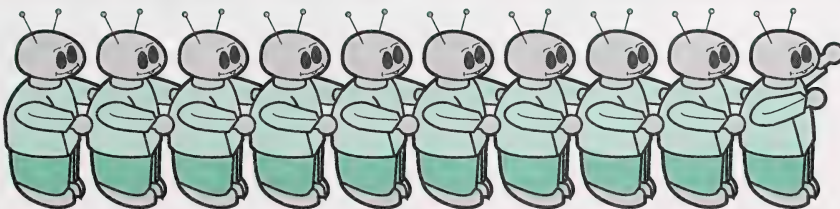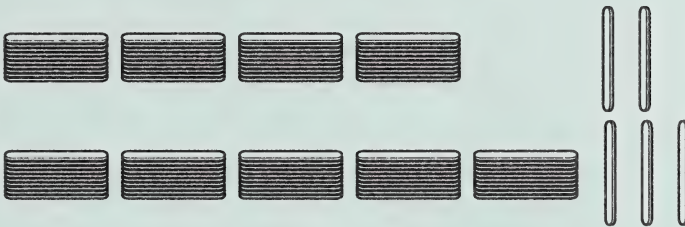
Place 50 sticks and at least ten elastic bands in front of the student. Ask the child to estimate how many sticks there are, and record the estimate.

Next, ask whether your student knows any easy ways to count all the sticks. Allow experimentation with various ideas. For example, the child may suggest bundling the sticks into sets of five and then counting by fives.
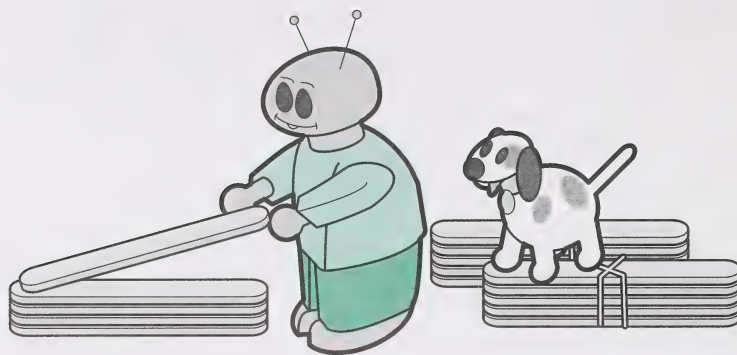
If the idea of grouping the sticks by tens has not been suggested, guide the student to do this. Then place an elastic band around each bundle of ten.
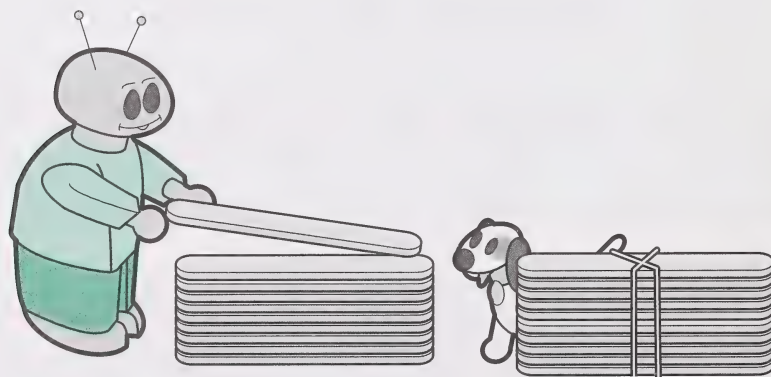
Help the student count the bundles of ten and record the actual count.

Compare the student's estimate to the count, and consider whether it was greater than or less than the actual amount.

Applying the Concept

1. Greater Than and Less Than

Give five bundles of ten and nine loose sticks to your student. Keep the same amount for yourself. Refer to the bundles as *tens* and the singles as *ones* to give the student practice with **place value**.

These are **tens**.
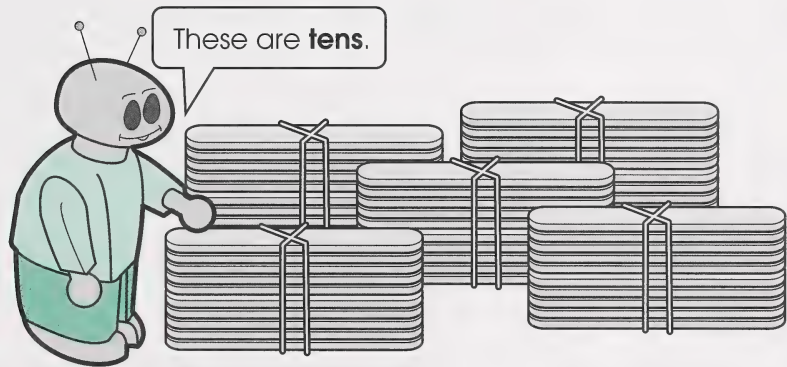
Draw a vertical line down the centre of a blank sheet of paper to make a chart. Point to the top of the page, and ask the child to print the words **greater than** on the left side of the line and the words **less than** on the right side.

greater than	less than

Set out two bundles of ten sticks and three ones. Then guide the activity with the dialogue that follows.

Activities

Home Instructor's Script
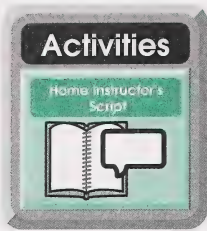
I am showing a number with my sticks.

What is the number? (23)

The number 23 has 2 **tens** and 3 **ones**.

Use your sticks to show a number that is **greater than** 23. Help the student if necessary.

How do you know that your number is greater? (The child should say that there are more tens, more ones, or more of both.)

Look at your chart that says **greater than** and **less than**.

Compare the number 23 with your greater number.

Where should you print the number 23 on the chart? (under the heading **less than**)

Print it there now.

greater than	less than
–	23

Where should you print your number? (under the heading **greater than**)

Print your number there.

Use a similar dialogue for other numbers between 0 and 50 until approximately half the page is full of greater-than and less-than number pairs.

Next, set out four bundles of ten and one stick, and continue the script.

What is this number? (41)

Use your **tens** and **ones** to show a number that is **less than** 41.

How do you know that your number is **less than** 41? (The student should say that there are fewer tens, ones, or both.)

Look again at your chart that says **greater than** and **less than**.

Where should you print the number 41? (under the heading **greater than**)

Where should you print your number? (under the heading **less than**)

Print the numbers in the correct columns.

Continue this activity until the chart is full.

greater than	less than
–	23
41	–

Materials
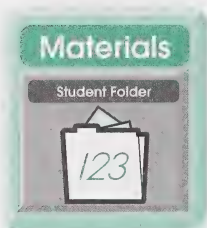
Student Folder

Have the student print the usual information—full name and the abbreviated form of the module and day numbers, M7D6—on the back of this page. Place it in the Student Folder.

2. Calculator Time

Take out the student's calculator. Review the concept of *greater than* by telling the student a number between 0 and 50. Ask the child to display on the calculator screen any number between 0 and 50 that is greater than your number.

My number is 15.

Key in a number between 0 and 50 that is **greater than** 15.
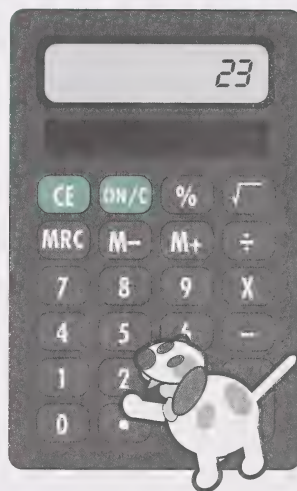
Next, review the concept of *less than* by telling the student a different number between 0 and 50. Ask the student to display on the calculator screen any number between 0 and 50 that is less than your number.

Continue this activity until the student has keyed in ten numbers that are greater than and ten that are less than numbers you have given. When finished, consider offering your student some form of encouragement for effort, such as a sticker or a pat on the back.

Enrichment (optional)

1. Greater-Than, Less-Than Game

For this activity, the following materials are required:

- large piece of folded cardboard or a large book
- 18 bundles of ten sticks each and 20 loose sticks

Step 1: On a table between two players, place the cardboard divider or a large book that can be stood on end. Give each player a set of sticks that consists of nine bundles of ten and ten ones.

Step 2: Have each player set out a number, using sticks hidden behind the barrier.

Step 3: Lift the barrier and compare sets. Which number is greater and which number is less?

My number is **greater than** your number.
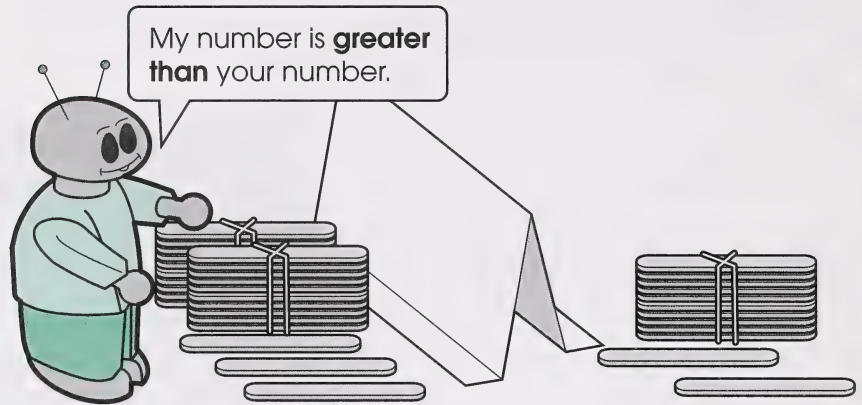
Repeat this activity several times. Encourage the use of different numbers each time.

2. Arrange the Numbers

For this activity, you need the 0 to 50 number cards.

Step 1: Shuffle the cards, and place them face down in a pile.
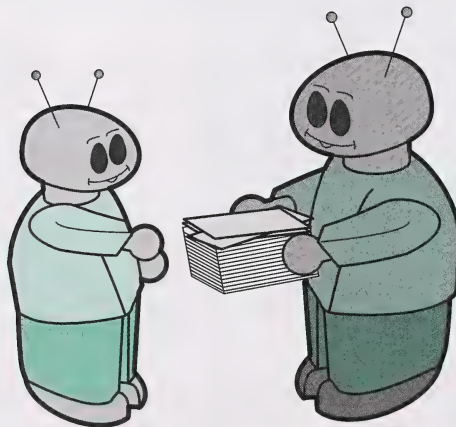
Step 2: Divide a sheet of blank paper vertically down the middle to make a chart.

Have the student print the words **greater than** on the left side and **less than** on the right side at the top of the paper.
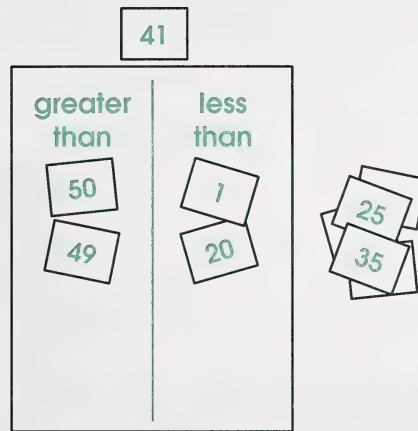
Step 3: Have the student take the top ten cards from the pile, and place one face up above the chart. Then have the student arrange the remaining nine cards according to whether they are greater than or less than the featured card.

Step 4: If you think that your student is capable of dealing with *greater-than* and *less-than* numbers to 100, you could challenge the student to do so.

Greater than

Less than

Materials

Mathematics Assignment Booklet A

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do the assignment for Day 6.

Then complete Day 6: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

End of Day 6
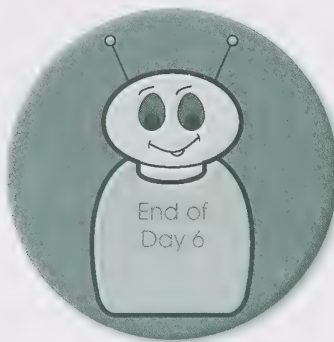
Day 7

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- identifying number patterns
- counting by twos and fives to 100

Vocabulary (spoken only)

skip counting	penny/pennies	less than
counting forward	nickel/nickels	actual
counting backward	cents	equivalence
coins	greater than	addition

Materials Required

- box containing required materials from the master list
- 50 sticks, such as wooden craft sticks or tongue depressors
- container to hold the sticks
- elastic bands (optional)
- 50 jelly beans or other small counters (optional)
- 100 pennies
- 20 nickels
- two open containers to hold the coins
- calculator
- items that come in pairs, such as shoes or mittens (optional)
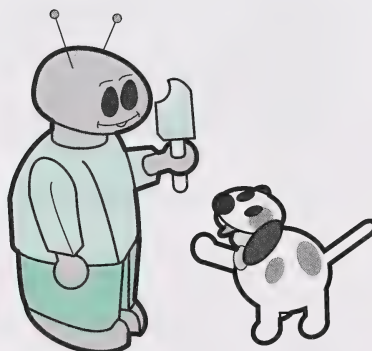
Developing the Concept

Counting by twos, fives, and tens is referred to as **skip counting**.

Activities

Teaching Tip

At your student's stage of development, skip counting starts at zero and counts forward from that point. In later grades, skip counting will proceed forward or backward from various starting points.

Skip counting allows the student to count faster and develops readiness for multiplication and division skills.

The strategy of skip counting, along with those of **counting forward** and **counting backward**, helps develop the student's ability to count change. Counting **coins** is an excellent application of skip counting, because each coin above a **penny** represents more than one item and can be counted as a unit. For example, five **nickels** equal 25 **cents**.

It is important for the child to recognize that one unit can represent more than one as a number. Realizing that your student is a developing learner, look for gradual improvements in understanding this and other concepts.

Weaknesses in counting become evident when a child counts change. Make a note in today's Learning Log of any counting difficulties that you observe.

Set out some elastic bands and a container with 50 sticks. Instruct as follows.

Activities

Home Instructor's Script

How many sticks do you think are in this container? Record the child's estimate.

Instead of sorting these sticks into groups of ten, we will sort them into groups of two.

Note: It may be helpful to bundle each group with an elastic band.

Let's count the groups together. (2, 4, 6, … 50)

Now, we will sort the sticks into groups of five and count them together. (5, 10, 15, ... 50)

How many sticks are there in total? (50)

Did you count the same number of sticks both times? (yes)

If additional practice is necessary, gather various small items for the student to sort and count by twos and fives. Coloured jelly beans would be ideal for this purpose.
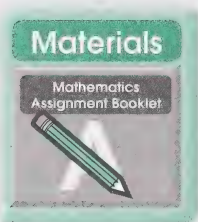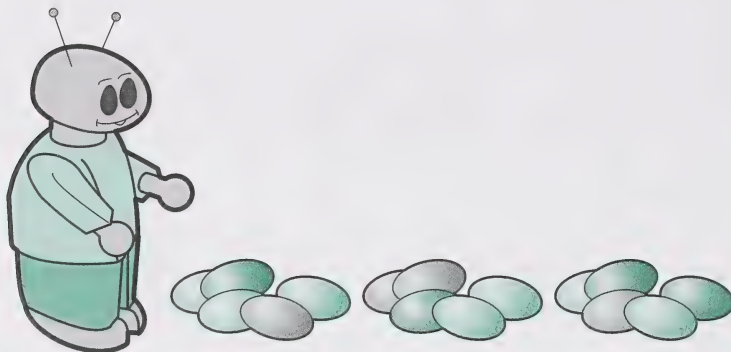
Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 7: Assignment 1.

Next, follow the directions to do Day 7: Assignment 2.

Consider giving the student encouragement for completing work with care and effort. For example, you could give the child a pat on the back or a pencil-crayon star on the completed assignment page.
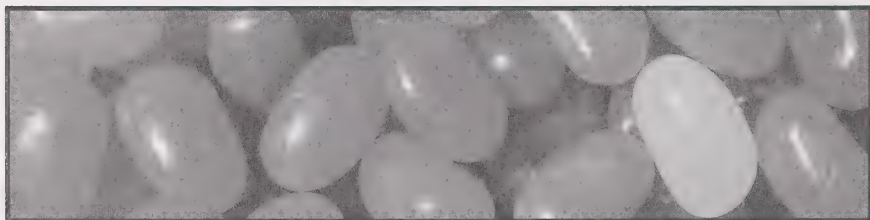
Applying the Concept

1. Pennies and Nickels

Place 100 pennies in front of the student. Proceed with the following instructions.

How many **pennies** do you think are here?

Print your estimate on a piece of paper.

Wait while the student prints.

Count the **pennies** in groups of two. Hold a container just below the table edge so that the student can slide in two pennies at a time.

Count the **pennies** as they land in the container. (2, 4, 6, … 100) Discuss and correct any errors.
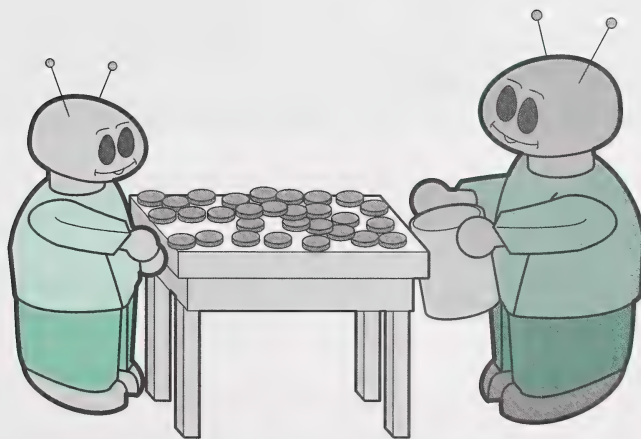
How many **pennies**, or **cents**, did you count? (100)

Place the **pennies** back on the table, and count them by ones. Continue to help the child as necessary.

Was your answer the same both times? (yes)

Was your estimate **greater than** or **less than** the **actual** count? Discuss these terms in relation to the numbers used.

Activities

Teaching Tip

The student will count **nickels** in the next activity.

Before beginning, make sure the student understands the concept of **equivalence**, for example, that one nickel represents the same amount as five pennies. Also, be sure the child can accurately count to 100 in groupings of five.

If the student has difficulty, first provide more practice sorting by ones, twos, fives, and tens and skip counting by these groupings.

Do not allow the student to become discouraged. Instead, have the child do as much as possible at any one time, and then continue with other activities. Periodically, return to these concepts to develop readiness and skill level at a pace that is appropriate to your student.

In Day 7: Learning Log, print a brief description of the strengths and weaknesses that your student demonstrates today.

Place 20 nickels in front of the student. Guide the child to count the nickels with the following script.

When you count **nickels**, how can you count them?

If necessary, guide the child to discover that nickels can be counted by fives because a nickel is worth five cents.

Place five pennies beside one of the nickels.

Now, move the nickel back to its group. How much money do you think these 20 **nickels** are worth in total?

Print your estimate on a piece of paper.

Count these **nickels** by fives.

I will hold a container just below the table edge so that you can slide in one **nickel** at a time.

Count each **nickel** as it lands in the container. (5, 10, 15, … 100) Discuss any errors.
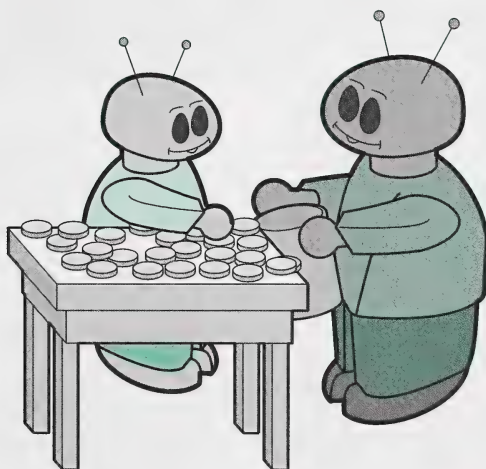
How many **cents** did you count? (100)

Place the **nickels** back on the table, and count them again.

Was your answer the same both times? (yes)

Was your estimate **greater than** or **less than** the **actual** count? Discuss these terms in relation to the numbers used.

2. Calculator Time

Ask your student to take out the calculator to skip count by twos to 100. Demonstrate the keys that must be pressed.

Activities

Demonstrate the following method:

• Press [2] and then [+].

• Continue to press these keys in that order.

You can use your calculator to count by twos. Key in the number 2, and then press the **addition** (+) key.

When you see a number on the screen, predict what number will come next.

To check your prediction, press the number 2 and the **addition** (+) key.

Continue to make and check predictions.

The number 6 will come next.
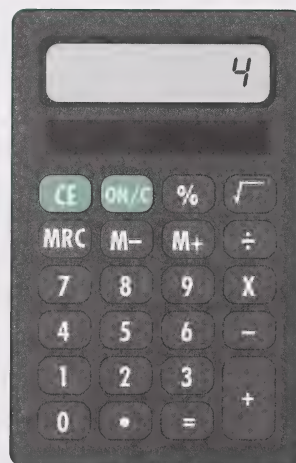
Next, demonstrate the calculator keys that must be pressed to skip count by fives to 100. Use a dialogue similar to the one used for counting by twos.

Activities

Teaching Tip

Demonstrate the following method:

• Press ⬚5⬚ and then ⬚+⬚.

• Continue to press these keys in that order.

The number 10 will come next.
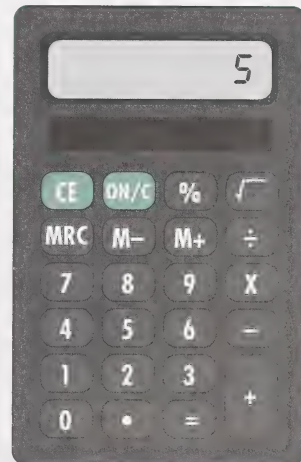
When finished, consider giving the student some form of encouragement for a job well done, such as a sticker, a stamp, or a pat on the back.
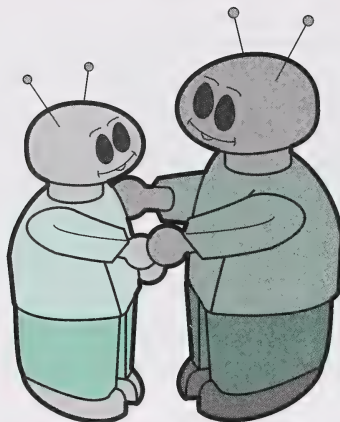
Enrichment (optional)

1. Count the Pairs

For this activity, collect items that come in pairs. Examples follow.

- shoes
- mittens
- socks
- gloves
- earrings
- boots

Gather about ten pairs. Have the student count them by twos.

Then arrange the items into groups of five, and have the child count them by fives.
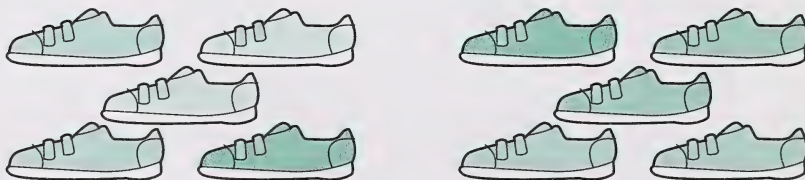
Repeat this activity using different items.
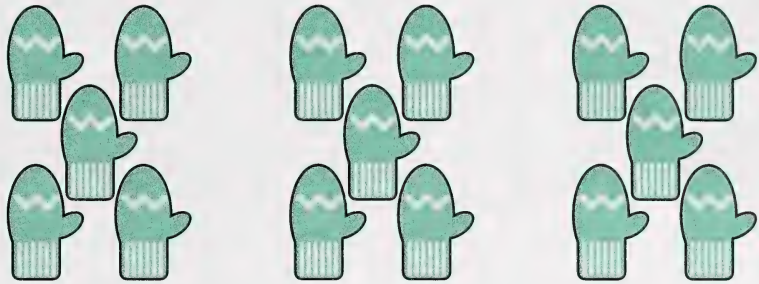
2. The People in My House

Have the student count the following items by twos:

- all the eyes in the house
- all the ears in the house
- all the feet in the house
- all the hands in the house
- all the legs in the house
- all the arms in the house

Then have the child count these items by fives:

- all the fingers in the house
- all the toes in the house

Materials

Mathematics Assignment Booklet
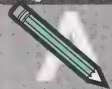
Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 1: Assignment 3.

Then complete Day 1: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

End of Day 7
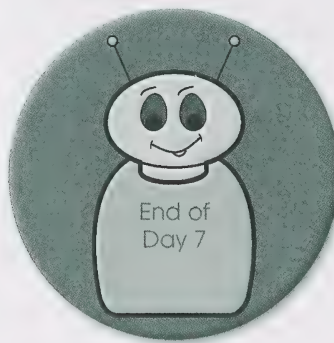
Day 8

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- identifying number patterns from 0 to 100
- counting by tens to 100
- counting coin collections: pennies, nickels, and dimes

Vocabulary (spoken only)

beginning   worth
end   digit/digits
dimes

Materials Required

- box containing required materials from the master list

- Hundred Chart, previously used in M7D5

- approximately 20 bingo chips or other flat counters

- 50 sticks, previously used in M7D7

- five elastic bands

- ten dimes in an open container

- 59 buttons, marbles, or other small counters

- five transparent bags

- 0 to 100 number cards (optional)

- one container holding 100 pennies, one holding 20 nickels, and one holding 10 dimes (optional)

This is the number 15.
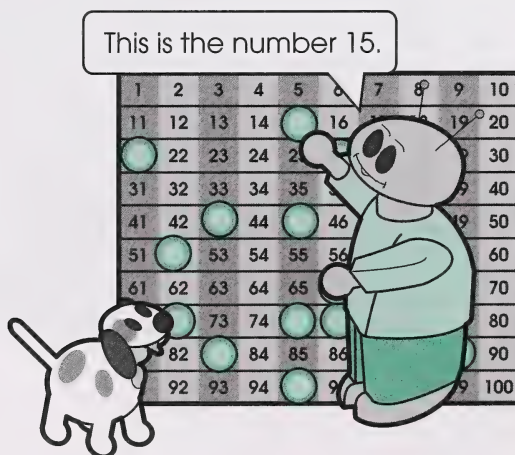
Developing the Concept

Today, the student will continue to develop the ability to establish equivalence and to skip count.

Begin by placing the Hundred Chart in front of the student. Review the numbers on the chart by reading them together a few times. Ask the child to point to each number as you say it. You could use the following script.

Activities

Home Instructor's Script
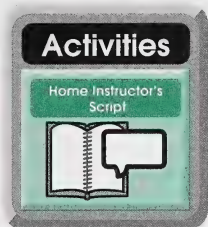
> Let's read the numbers on the chart from **beginning** to **end**.
>
> Use your finger or the top of your pencil to point to each number as we say it.

Monitor the child's progress. Discuss and correct any errors.

Next, give the student 20 flat counters, such as bingo chips, and say the following.

> I will say some numbers.
>
> Use one of your counters to cover each matching number on the chart.
>
> Cover 0. Cover 7. Cover 13. Cover 18.
> Cover 22. Cover 26. Cover 31. Cover 37.
> Cover 44. Cover 49. Cover 50. Cover 55.
> Cover 63. Cover 68. Cover 72. Cover 79.
> Cover 81. Cover 86. Cover 94. Cover 98.
>
> Now, take the counters off the number chart, one at a time, and say each number aloud as you uncover it.

Repeat this activity twice, each time covering different numbers. Discuss and correct any errors.

Then place 50 sticks in front of the student. Instruct as follows.

How many sticks do you think are here?

Print your estimate on paper.

Now, count the sticks.

Begin by sorting the sticks into groups of ten.

Place an elastic around each group. Help the child as necessary.

How many groups of ten do you have? (5)

How many sticks do you have? (50)

Provide additional items to sort and count by tens, if necessary.

Place ten dimes in front of the student. Then proceed with the following instructions.

When you count **dimes**, how can you count them? If necessary, guide the student to discover that dimes can be counted by tens because a dime is **worth** ten cents.

Place ten pennies beside one of the dimes. Now, return the dime to its group.

How much money do you think this group of **dimes** is **worth**?

Print your estimate on a piece of paper.

Count these **dimes** by tens.

I will hold a container just below the table edge so that you can slide in one **dime** at a time.

Count each **dime** as it lands in the container. (10, 20, 30, ... 100) Discuss any errors.
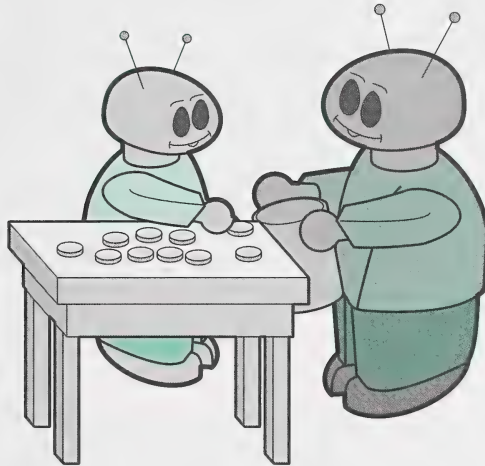
How many cents did you count? (100)

Place the **dimes** back on the table, and count them again.

Was your answer the same both times? (yes)

Was your estimate greater than or less than the actual count? Discuss these terms in relation to the numbers used.

Activities

Teaching Tip

If your student experienced difficulty counting by tens, continue to provide opportunities to sort by ones, twos, fives, and tens and to skip count by these groupings.

As mentioned in a Teaching Tip from Day 7, the concepts of *establishing equivalence* and *skip counting* may be too difficult for the student at this stage of development.

Remember not to allow your student to become discouraged. Instead, have the student do what is possible and then continue with other activities. Periodically, return to these concepts to develop the child's readiness and skill level at an appropriate personal pace.
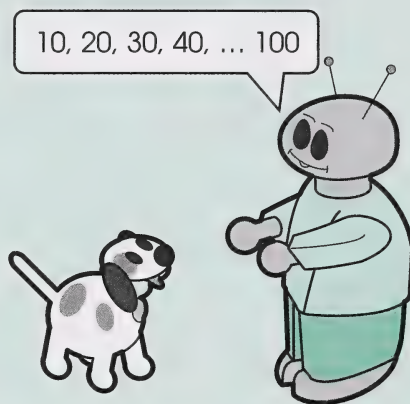
10, 20, 30, 40, ... 100

Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 8: Assignment 1.

10¢   10¢   10¢

Applying the Concept

What's My Number?

For this activity, you will need the following items:

- 59 buttons, marbles, or other small counters
- five transparent bags

Step 1: Have the student count out groups of ten and place each group in a transparent bag. Keep nine items out.
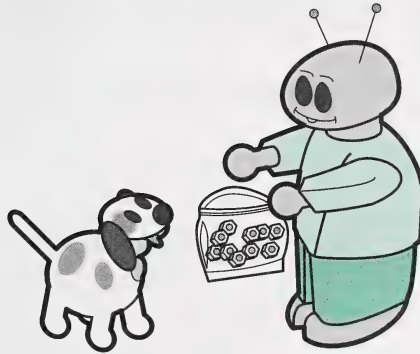
Step 2: Take turns constructing numbers from 10 to 50 and identifying the numbers.

This is the number 25.
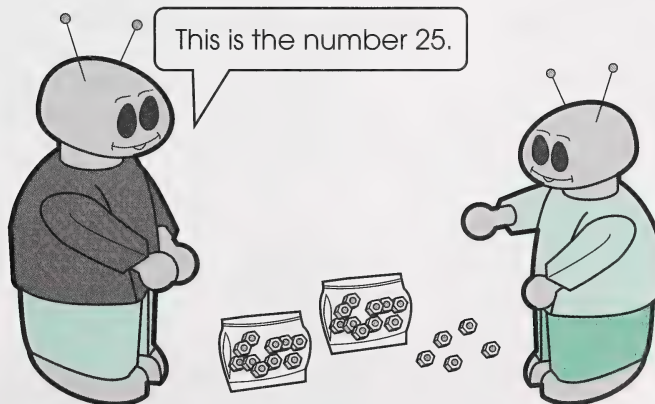
Step 3: Continue until the student has practised constructing and identifying about 20 numbers from 10 to 50.

Enrichment (optional)

1. Coin Count

For this activity, you will need the 0 to 100 number cards and the three containers holding coins—100 pennies, 20 nickels, and 10 dimes.

Step 1: Shuffle the number cards, and place them face down in front of the student.

Step 2: Take turns picking a card from the top of the pile and using coins to make the number on the card. For example, to make the number 58, the child could use five dimes, one nickel, and three pennies; five dimes and eight pennies; or any of several other combinations of these three types of coins.
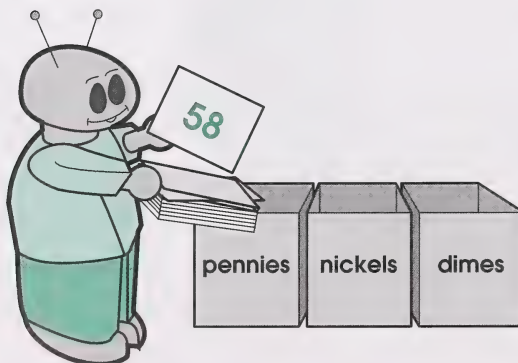
2. What's the Number?

Step 1: Think of a number between 0 and 100.

My number is 15.
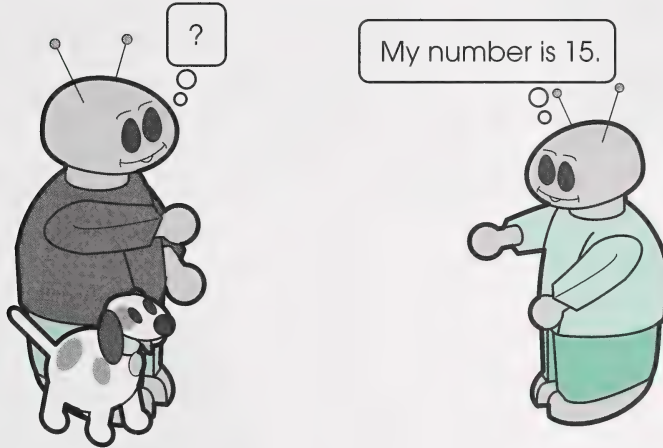
Step 2: List one clue at a time until the student determines the correct number. Help as necessary. You could use clues such as the following:

digit: one of the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9

- It has two **digits**.
- It comes between the numbers 10 and 20.
- It comes after the number 14.
- It ends with the number five.

You and the student could list your clues on a sheet similar to the one that follows.

What's the Number?

Clue 1

Clue 2

Clue 3

Clue 4

Materials

Mathematics Assignment Booklet
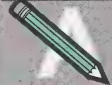
Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 8: Assignment 2.

Then complete Day 8: Learning Log. Under Student's Thoughts, instruct the child to colour the face that describes today's mathematical learning and then tell why. For example, the student might colour the confused face because of difficulty matching coins to a given number.
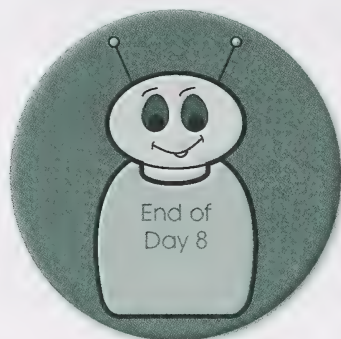
End of
Day 8

Day 9

Activities

Calendar Time

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- copying a pattern
- problem solving: identifying and extending patterns
- problem solving: creating patterns
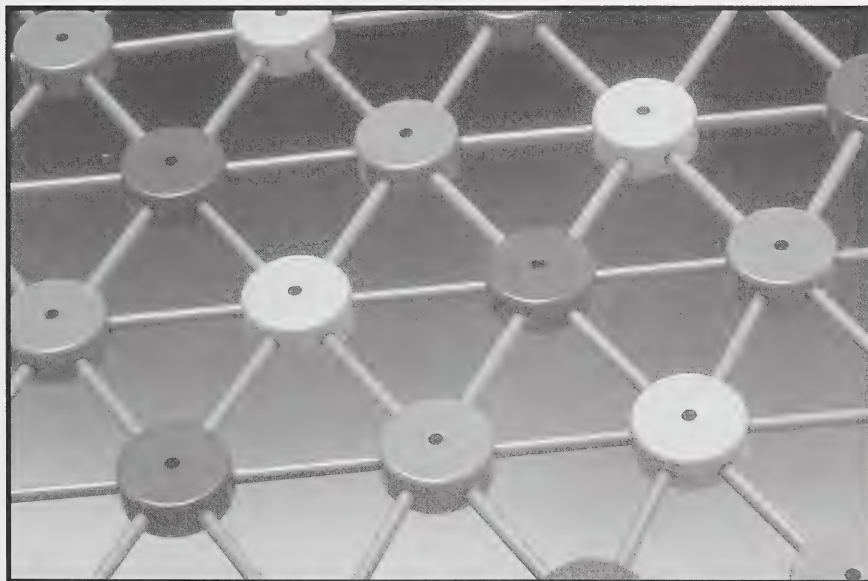
Vocabulary (spoken only)

patterns/pattern
triangle
circle

Materials Required

- box containing required materials from the master list
- approximately 20 paper clips
- collections of 20 other small objects
- calculator
- My Pattern Booklet, made by the student in Module 3
- toothpicks (optional)
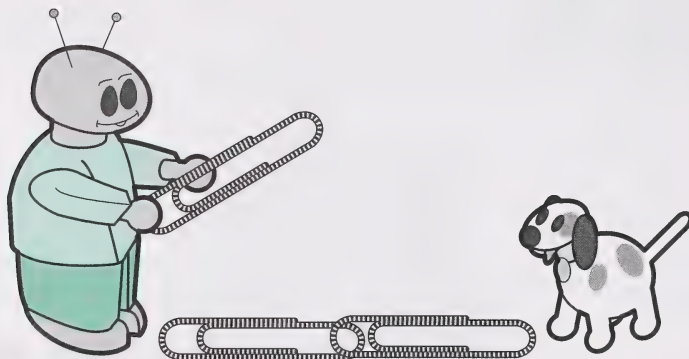
Developing the Concept

Today, the student will copy, identify, extend, and create patterns.

Activities

Mathematics is the study of **patterns**. As mentioned in Day 2 of this module, patterns are the way in which colours, shapes, lines, numbers, sounds, or actions are arranged or repeated in the same order. Patterns help children develop number sense, order, counting skills, and problem-solving skills.

There are four types of activities that help children develop their understanding about patterns.

- **Copying a Pattern:** The student sees a pattern and makes one just like it.

- **Finding the Next One:** The student adds the next component to a pattern.

Continued …

- **Extending a Pattern:** The student sees a pattern and continues it.

- **Making a Personal Pattern:** The student creates a personal pattern.

Encourage your student to think aloud while patterning. Ask why the student selects a certain component or why a specific sound or action is performed. It is important for the student to share the thinking process with you.

1. Copying a Pattern

Draw the following shapes in a line across a sheet of paper.

triangle circle triangle circle
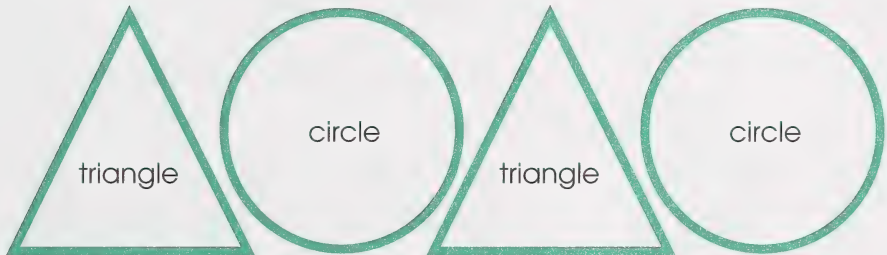
Ask the student to copy your pattern.

If the child has no difficulty, continue to the next activity. If the student does have difficulty, continue to present different patterns until the child can copy them without difficulty.

2. Finding the Next One

Set out paper clips in the following pattern, and use the script that follows.

two clips   one clip   two clips   one clip

Activities

How many paper clips will come next in my **pattern**? (two paper clips)

How do you know? (The **pattern** is two paper clips, one paper clip, two paper clips, one paper clip, so the next one in the **pattern** would be two.)

Read the **pattern** aloud. (two paper clips, one paper clip, two paper clips, one paper clip)

3. Extending a Pattern

Give the student nine more paper clips, and proceed with the script.

Use these paper clips to continue the **pattern** with two paper clips and one paper clip.

Monitor the student's progress. Discuss and correct any errors. Do a few more patterns, and ask the child to extend each one.

4. Making a Personal Pattern

Provide the student with a selection of two or three other kinds of small objects. Continue the script.

Now, make your own **pattern**.

You may use all of the paper clips or some other small objects to make your **pattern**.

Help the child, if necessary. Then say the following.

Read your **pattern** to me.

Record the student's pattern on a sheet of paper. This will help the child connect the actual pattern with the number pattern that it represents. A sample pattern record follows.

one button   two buttons   one button   two buttons
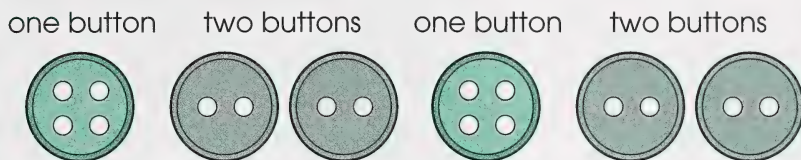
Encourage the student to create a new pattern and independently record its corresponding number pattern.

What **pattern** should I create next?

Applying the Concept

1. Calculator Time

Take out the calculator.
Enter ③ ① ③ ①.

3131
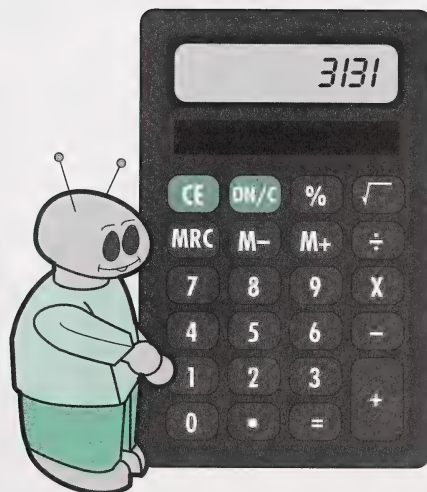
Then use the following script.

> What number should be entered to continue this pattern? (3)
>
> Key in the next number.
>
> Continue the pattern until the screen is full.
>
> Press **Clear** .
>
> Key in a new number pattern that will show on the calculator screen.

Allow the student to practise various number patterns that show on the calculator screen.

2. My Second Pattern Booklet

In Module 3, the student made My Pattern Booklet. This second booklet is an extension of that one. Review the first pattern booklet before starting this one. Then gather the following supplies:

- one sheet of construction paper
- two sheets of blank loose-leaf paper
- pencil crayons
- stapler

Step 1: Fold the sheet of construction paper in half horizontally to make the front and back covers. Fold the two sheets of loose-leaf paper the same way, and place them inside the construction paper to make the inside pages of the booklet.

Staple all the pages together along the fold.
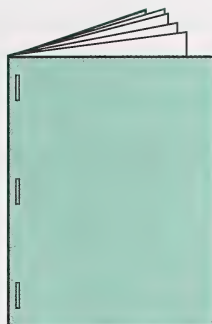
Step 2: Have the student print the title **My Second Pattern Booklet** on the front cover. Add the word **by** and the student's full name.

My Second
Pattern
Booklet

student's
full name
by _____
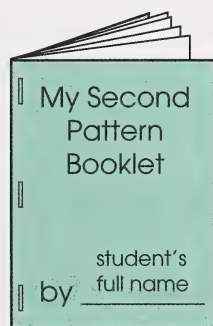
Step 3: Ask the student to create a pattern using shapes on the first page. On the second page, create a pattern using numbers. On the third page, create a pattern using colours. On the last page of the booklet, create a pattern using letters.

● ■ ▲ ● ■ ▲	5 6 1 5 6 1 5	A Z A Z A Z A
1	2	4
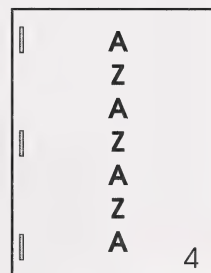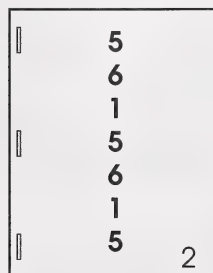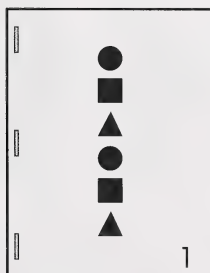
Encourage your student with words or a sticker for the effort in creating this booklet.

Materials

Student Folder

123
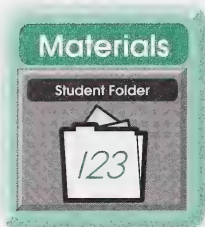
Step 4: Have the student print the abbreviated form of the module and day numbers, M7D9, on the back of the booklet.

Step 5: Encourage the child to read the patterns in the booklet to family and friends. Then place it in the Student Folder.

My Second Pattern Booklet
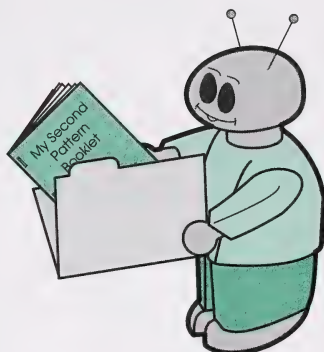
Enrichment (optional)

1. Sound-and-Action Patterns

Create patterns using different sounds with actions. For example, a pattern could be made by clapping hands, stamping feet, and snapping fingers.

clap	stamp	snap	clap	stamp	snap
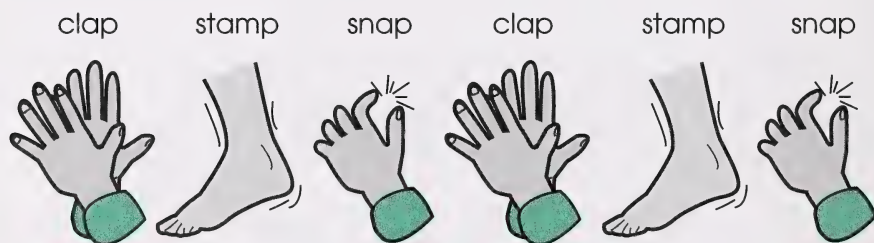
Ask the student to copy and continue each pattern. Challenge the child to create new patterns as well.

2. Toothpick Patterns

For this activity, gather the following supplies:

- toothpicks
- paper
- glue

Demonstrate a toothpick pattern, and then have the student use toothpicks and glue to create a new pattern on a piece of paper.

For example, you could arrange the following pattern.

| two toothpicks | four toothpicks | one toothpick | two toothpicks |
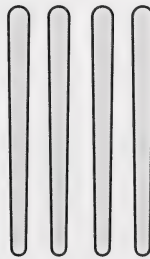
Your student could create new patterns until the paper is filled. When the glue is dry, have the child record the number representation of each pattern.

2   **4**   **1**   **2**
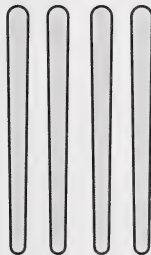
Materials

Mathematics Assignment Booklet
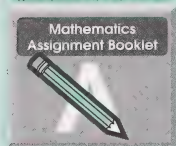
Turn to Mathematics Assignment Booklet 7A, and follow the directions to do Day 9: Assignment 1.

Next, have the student complete Day 9: Assignment 2.

Then complete Day 9: Learning Log. Under Student's Thoughts, instruct the child to colour the face that describes today's mathematical learning and then print a sentence to explain why that face was chosen.

Materials

Mathematics Assignment Booklet
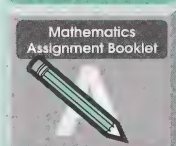
At the end of Mathematics Assignment Booklet 7A, follow the directions to complete Day 9, Student Folder Items. Take the required items from your Student Folder. Submit these items and Assignment Booklet 7A to your student's teacher for marking at the time the teacher has requested them.
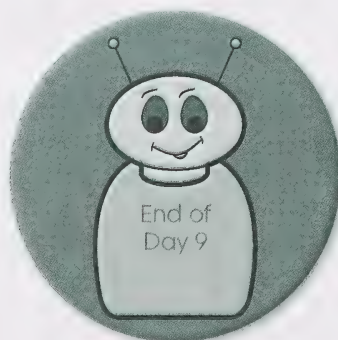
End of
Day 9

Day 10

Activities

Calendar Time

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- problem solving: sequencing events
- describing the time of day
- measuring the duration of events

Vocabulary (spoken only)

time of occurrence	evening	year	before
duration	night	clock	after
morning	day/today	first	second
afternoon	season	next	order

Materials Required

- box containing required materials from the master list

- variety of personal and household items, for example, toothbrush, comb, washcloth, and fork (optional)
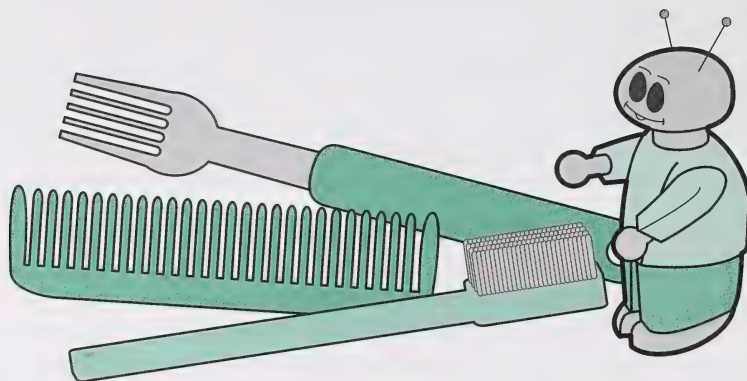
Developing the Concept

Today, the student will be introduced to the concept of time. This concept may be used to specify when an event did occur or will occur (**time of occurrence**) and to describe how long an event lasted (**duration**).

Activities

Teaching Tip

Begin describing *time of occurrence* by focusing on a general time, such as *this morning, today,* or *in October.* Young children need to develop the vocabulary of **morning, afternoon, evening, night, day, today,** and **season** of the **year.**

In regard to *duration*, a Grade One student can usually tell which of two events takes longer when their lengths are greatly different. If the events are similar in time, the child can usually tell which lasts longer when both begin at the same time. The concept is similar to deciding which object is longer when two are placed on the same base line.

Encourage your student to participate in competitions that require the same starting time, for example, who can stand longer on one foot or who can run faster to a designated spot.

Assessing time passage is usually difficult for students of this age. They need a lot of experience sequencing and determining duration of events before learning how to read a clock.

Developing the Concept

Read the following rhyme with your student.

Hickory, Dickory, Dock

Hickory, dickory, dock,
The mouse ran up the clock.
The clock struck one;
The mouse ran down.
Hickory, dickory, dock.

Encourage the child to repeat the rhyme with you a few times, and then discuss the following questions.

Activities

Home Instructor's Script

What word rhymes with **clock**? (dock)

What time does the rhyme say it is? (one o'clock)
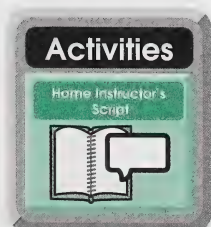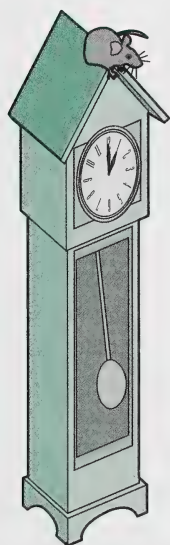
What does the mouse do **first**? (run up the clock)

What does the mouse do **next**? (run down)

Continue your discussion of **first** and **next** with more questions.

What do you do **first**, get out of bed or eat breakfast?

Do you wash your face **before** or **after** you dry it?

What do you put on **first**, your shoes or your socks?

When the child has indicated the correct order of these events, continue with the discussion.

I will say some activities that you do during one day.

You say when you do them—**morning**, **afternoon**, **evening**, or **night**.

When do you get out of bed? (morning)

Eat lunch? (morning or afternoon)

Comb your hair? (morning)

Eat supper? (evening)

Put on your pyjamas? (night)

Sleep? (night)

As you work through the list, remind the student to think about where the sun is in the sky at various times of the day. Discuss any errors.

Applying the Concept

1. Ordering Events

Cut a sheet of blank loose-leaf paper into four equal strips.
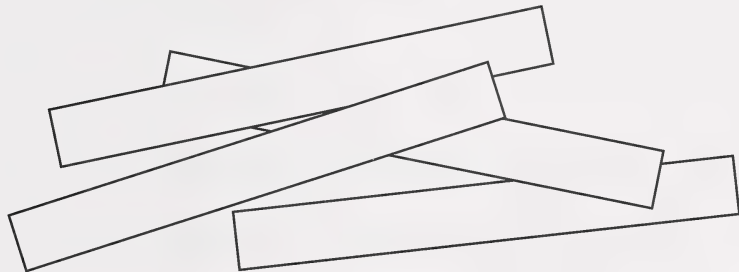
Use the following script to guide a discussion about the first four things your student does in the morning.

When you wake up in the **morning**, what is the **first** thing you do?

What do you do **second**?

After the second thing, what do you do?

What do you do **next**?

Encourage your student to be very specific about the sequence of events. Identify and discuss if an event is listed out of order. For example, the child might list getting dressed after getting out of bed. You could then ask about the need to take off the pyjamas before putting on day clothes.

Print each event on one of the paper strips. Read each strip with the student, and then mix up their **order**. Continue the script.

Place these strips back in the correct **order**.

Which one comes **first**?

Get out of bed.

Go to the bathroom.

Comb my hair.
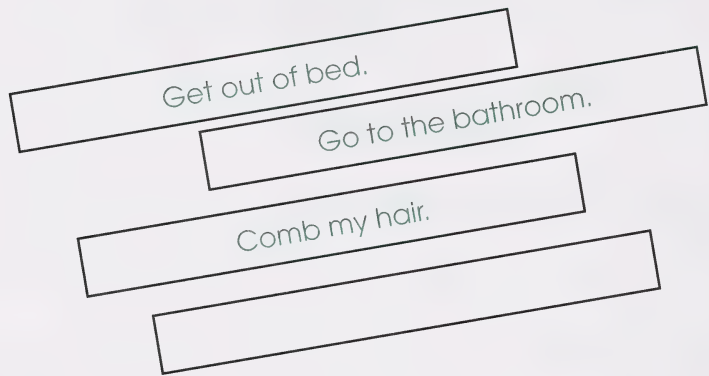
When the four strips are in order, use them in the next activity.

2. My Morning Booklet

Gather the following supplies:

- one sheet of construction paper
- two sheets of blank loose-leaf paper
- pencil crayons
- stapler
- the four paper strips from the previous activity

Step 1: Fold the sheet of construction paper in half to make the front and back covers of the booklet. Fold the two sheets of blank paper to make the inside pages. Staple together along the fold.

Step 2: Have the student print the title **My Morning Booklet** on the front cover. Add the word **by** and the student's full name.

My Morning
Booklet

student's
by ___full name___
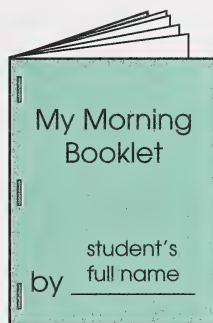
Step 3: Have the student copy four events on the inside pages from the previously recorded paper strips. The child can print the first event of the morning on the first page, the second event on the second page, and so on.

Get out of bed.	**Go to the bathroom.**	**Comb my hair.**
1	2	3
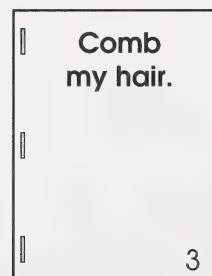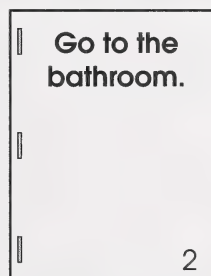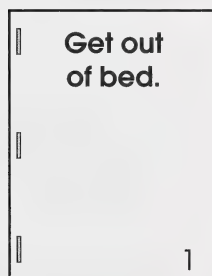
Step 4: Ask the child to draw an illustration to match the event printed on each page.

Get out of bed.

1

Step 5: Ask the student to print the abbreviated form of the module and day numbers, M7D10, on the back of the booklet.
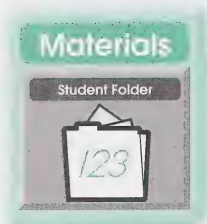
Encourage the child to read **My Morning Booklet** to family and friends. Then place it in the Student Folder.

Materials

Student Folder
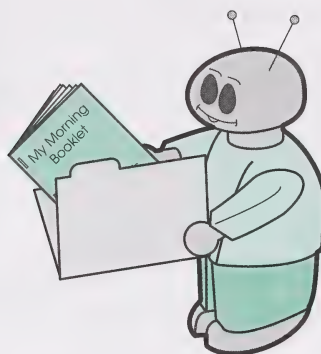
Enrichment (optional)

1. Who Can?

Have a contest with your student to find out who can stand longer on one foot. Start at the same time.
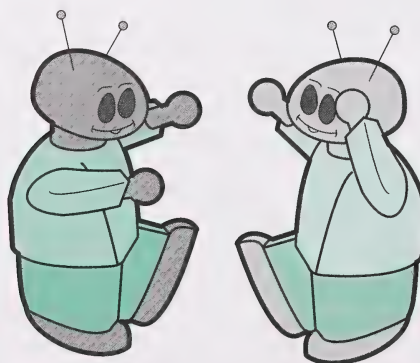
Then have a contest to find out who can complete ten jumping jacks faster. Start at the same time.

Finally, try a timed contest idea of your choice.

2. Order the Items

Gather a variety of household and personal items, for example, fork, comb, and washcloth. Ask the student to place them in the order that they are used during the day.
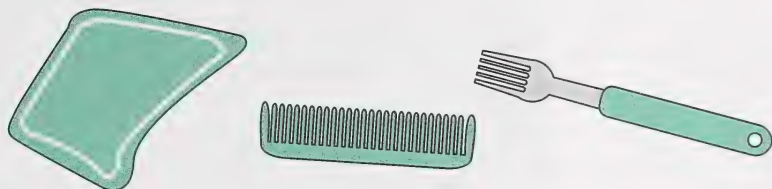
3. Morning, Afternoon, Evening, or Night

This activity challenges the student to think quickly. Name an activity that occurs at any time during the day, and ask the student to say when it happens. Some examples follow.

making your bed—morning
hanging up your clothes—evening

Reverse this activity by telling the student a time of day and having the child name an activity.

night—the child's answers may vary

At night

In the morning
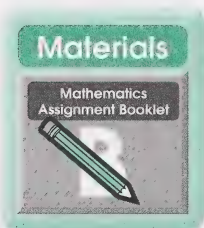
Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 10: Assignment 1.

Next, follow the directions to do Day 10: Assignment 2.

Then complete Day 10: Learning Log. Under Student's Thoughts, help the child colour the face that describes today's mathematical learning and then tell why. For example, the student may be able to say the time of day for events because of knowing the order of events.

End of
Day 10
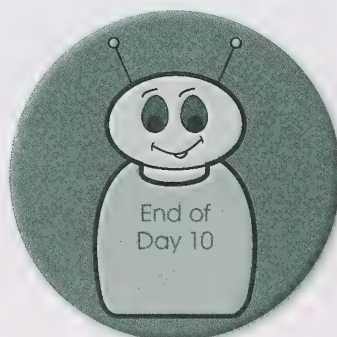
Day 11

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- estimating and measuring time using nonstandard units
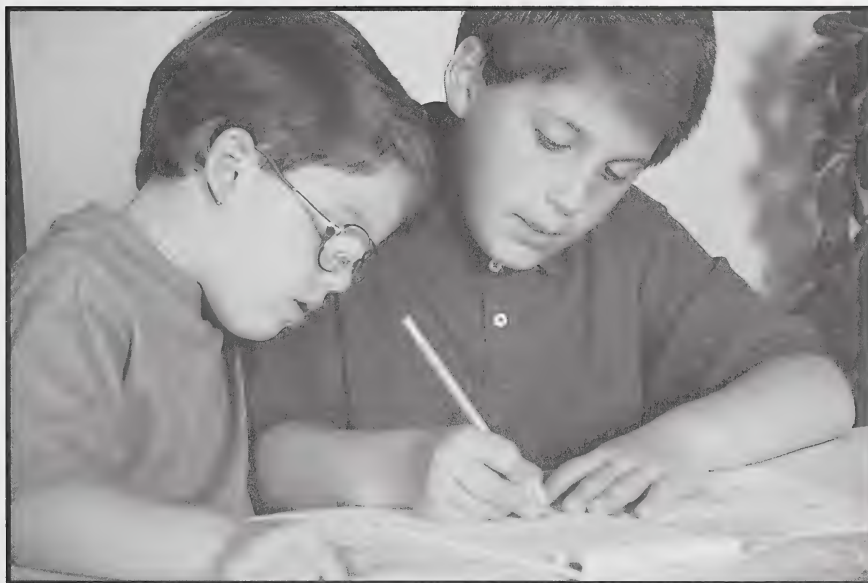
Vocabulary (spoken only)

longer/longest
simultaneously
unit to measure time
regular intervals
shorter/shortest

Materials Required

- box containing required materials from the master list
- shoes with laces or a jacket with buttons
- metronome (optional)
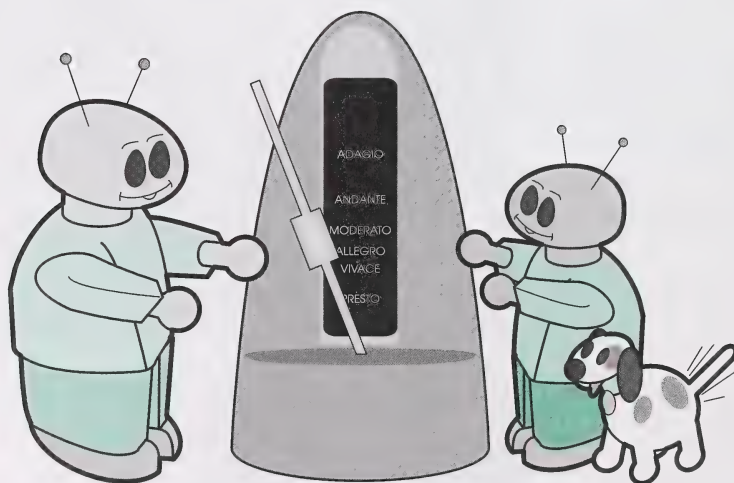
Developing the Concept

Today, the student will estimate and measure the passage of time with nonstandard units.

Activities

Teaching Tip

The ability to estimate and measure time requires a student to compare the duration of two events.

In early comparison tasks, a child generally relies on memory. An example would be to mention two familiar activities and ask the student which one takes **longer**, or more time, to complete—such as eating breakfast and getting dressed.

The student can directly compare events that start **simultaneously**, such as runners' times in a race.

The student cannot directly compare events that do not occur simultaneously. For these, you need a **unit to measure time**. Two events that are difficult to do at the same time (for example, combing hair and brushing teeth) illustrate this need.

Any action that is regular and repeated can serve as a nonstandard unit of measure. Examples include the tapping of a pencil, the movement of a metronome, or the swinging of a pendulum.
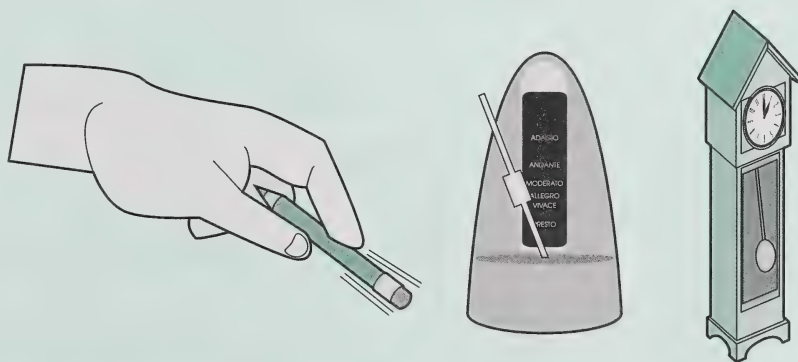
Note: If your student's shoes do not have laces today, have another pair of laced shoes available. If the student is not yet able to tie laces, substitute a buttoning activity.

Begin your discussion with the following script.

Activities

Home Instructor's Script
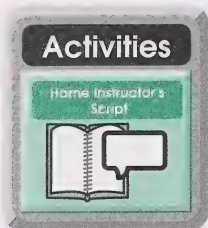
When you get up in the morning, does it take **longer** to comb your hair or to eat your breakfast?

Does it take **longer** to make your bed or to watch cartoons?

How can you find out for sure which activity takes **longer**?

Can you do both activities at the same time?

Does it take **longer** to print your name or to tie your shoelaces? Let's see.

I will tap a pencil at **regular intervals**, first while you print your name and again while you tie your shoelaces.

We can count how many taps it takes for you to do each activity.

To maintain a regular interval, you could count the same way seconds are counted—one, one thousand, two, one thousand.

One, one thousand, two, one thousand, three, …
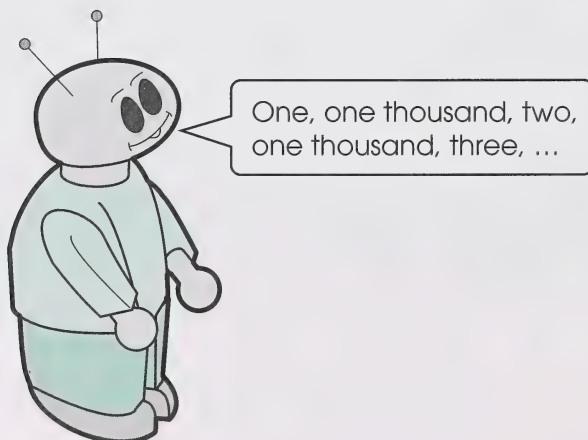
While the student's full name is printed, you can tap and count at regular intervals. Then record the number of taps.
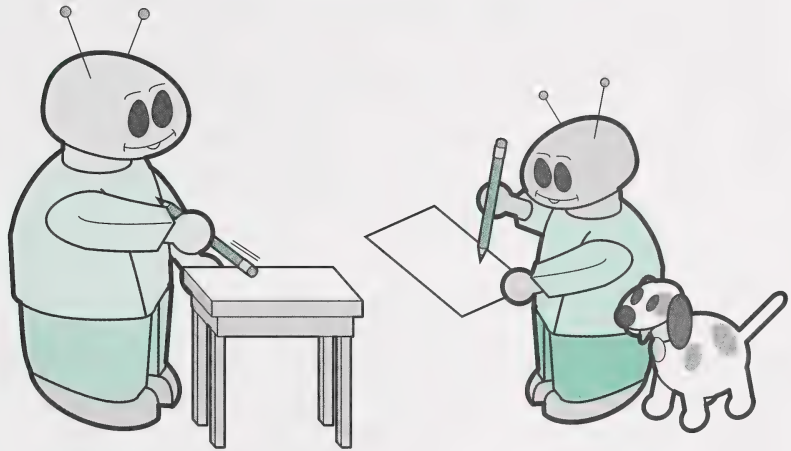
Tap and count again as the student ties a pair of shoelaces. Again, record the number of taps.
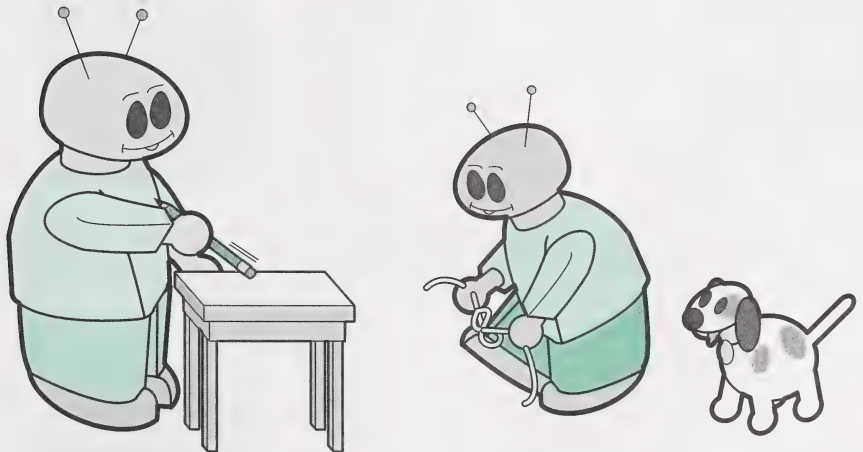
Finally, ask the following questions.

Which activity took **longer** to complete?

How do you know? (It took more taps.)

Applying the Concept

How Long Does It Take?

Gather the following supplies:

- one sheet of construction paper
- two sheets of loose-leaf paper
- pencil crayons
- stapler

Step 1: Fold the sheet of construction paper in half to make the front and back covers of a booklet. Fold the two sheets of blank paper to make the inside pages. Staple the pages together along the fold.
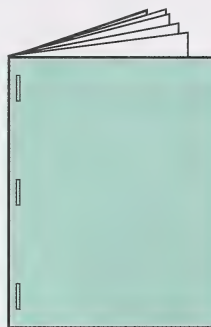
Step 2: Have the student print the title **How Long Does It Take?** on the front cover. Add the word **by** and the student's full name.
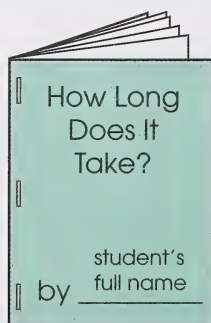
Step 3: Have the student choose four activities to time. Print the name of one activity at the top of each page of the booklet. An example follows.

| Brush my
  teeth.

|

|

Step 4: Decide on a nonstandard unit of measure that you will use to time the activities. Ask the student to print your unit of measure under each activity. Examples might be pencil tapping or hand clapping.

| Brush my
  teeth.
  Clap hands.

|

|

Step 5: Have the student print an estimate for each activity under the unit of measure. An example follows.

| Brush my
  teeth.
  Clap hands.
  Estimate—
| 45 claps.

|

Step 6: Complete each activity, and have the student record the actual time it took, as in the following example.

> Brush my teeth.
> Clap hands.
> Estimate—45 claps.
> It took 60 claps.

Step 7: Ask the student to print the abbreviated form of the module and day numbers, M7D11, on the back of the booklet.

Encourage the child to read **How Long Does It Take?** to family and friends. Then place the booklet in the Student Folder.

Materials

Student Folder

123
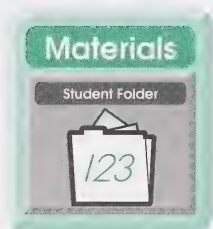
Enrichment (optional)

1. How Many Claps?

Ask your student to estimate and record approximately how many claps it would take for you to do a few different activities, such as the following:

- play a tune on an instrument
- complete five jumping jacks
- write your name and address
- touch your toes five times

Have the student clap at regular intervals while you complete each activity. Then ask how many claps you took, and consider whether the estimate was greater than or less than the actual count.

2. Which Is the Longest?

Have the student list five usual afternoon activities. Illustrate and label each activity on a separate strip of paper.

Ask your student to arrange the activities in order, beginning with the one that takes the **shortest** length of time to complete.

Silent Reading
Writer's Workshop
Project Time
Sharing Time
Playing outside
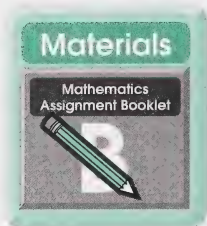
Materials

Mathematics Assignment Booklet **B**

Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 11: Assignment 1.

Next, follow the directions to do Day 11: Assignment 2.

Then complete Day 11: Learning Log. Under Student's Thoughts, instruct the child to colour the face that describes today's mathematical learning and then tell why. For example, what does the student think of the ability to estimate and count how many regular movements it takes to complete an activity?

End of Day 11

Day 12

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- naming and ordering days of the week and seasons of the year

Vocabulary (spoken only)

day/days	time of occurrence	winter
week	first	spring
season/seasons	after	summer
year	last	fall

Materials Required

- box containing required materials from the master list
- Days of the Week cards from the Calendar Package
- Seasons of the Year cards from the Calendar Package

Developing the Concept

Today, the student will order the **days** of the **week** and the **seasons** of the **year**.

Activities

Teaching Tip

An attribute of time that you can measure is **time of occurrence**.

In previous days, the student described the general time of day—morning, afternoon, evening, or night. The days of the week and the seasons of the year provide additional information about time.

Naming the general time of day, the days of the week, and the seasons in sequence is an essential life skill that helps children gain a sense of daily, weekly, and seasonal activities.

Refer often to your student's calendar to discuss personal events for each day, week, and month. This will develop the student's time skills in a meaningful way.

On the 30th in the morning, I am going swimming.

March 20XX

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
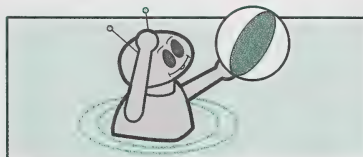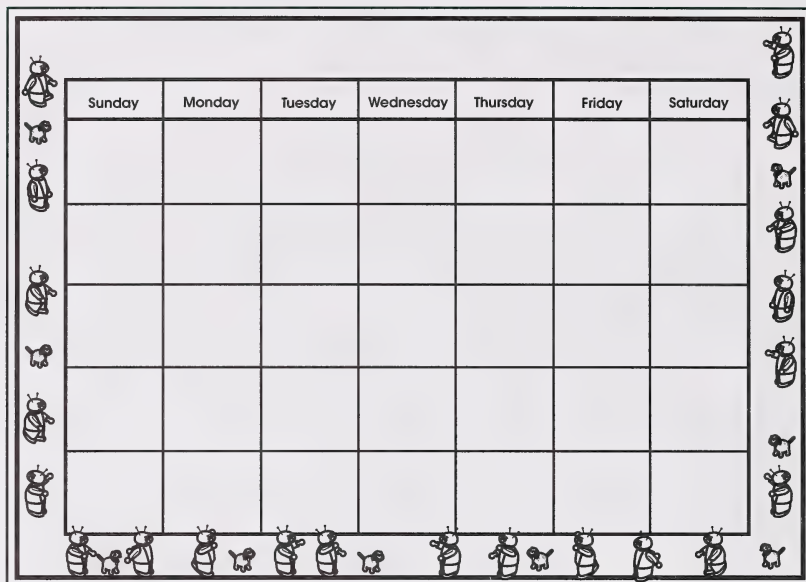
Focus the student's attention on the personal calendar used for Calendar Time, and discuss the days of the week as follows.

Activities
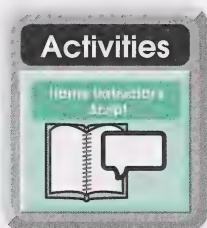
Let's read the **days** of the **week** together as I point to them with the top of my pencil. (Sunday, Monday, …)

Begin on the first Sunday of the month, and say each day of the week for each week of the month. Then ask the following questions.

What is the **first day** of the **week**? (Sunday)

What **day** comes **after** Sunday? (Monday)

Can you say all the **days** of the **week**? If you need help, I will help you read them.

How many **days** are there in one **week**? (seven)

Look at the calendar. What is the **first day** of this month?

What is the **last day** of this month?

Let's read the **days** of the **week** together one more time. (Sunday, Monday, …)

Can you say the **days** of the **week** in order, without looking at the calendar? Help the student if necessary.

Set out the Days of the Week cards in random order. Take a few turns putting the cards in order.
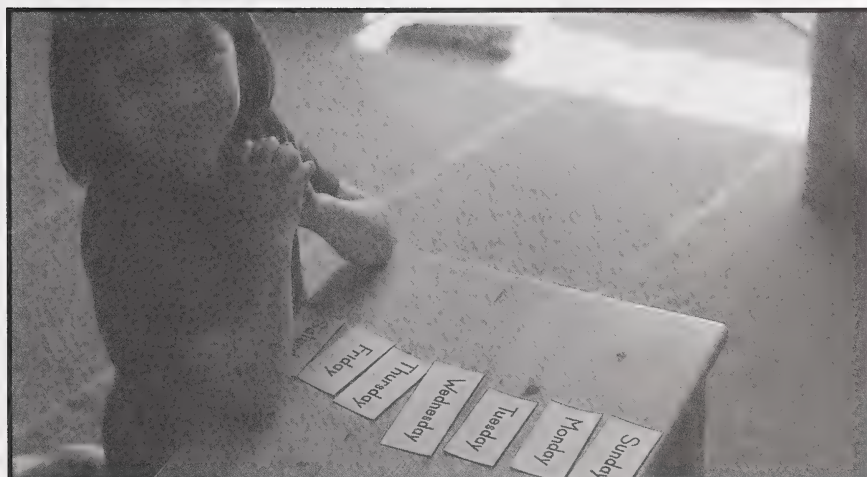
When the student is familiar with the order of the days of the week, continue with the seasons of the year. Use the following dialogue. If necessary, adapt it to suit the area where you live.

What **season** is it when the trees are bare and we shovel snow? (**winter**)

What **season** is it when we watch the leaves grow and the grass turn green? (**spring**)

What **season** is it when we mow the lawn and see green trees? (**summer**)

What **season** is it when we watch the leaves change colour and fall off the trees? (**fall**)

Starting with **winter**, say the names of all four **seasons** with me. (winter, spring, summer, fall)

What **season** is it right now?

Baby animals are born in the spring.

Think about what is happening to the trees— are the leaves falling off, gone, or growing back?

Which **season** will come next?

Applying the Concept

On a large piece of paper, print the following adapted version of the song "Here We Go 'Round the Mulberry Bush."

=== **Here We Go 'Round the Mulberry Bush** ===

**Here we go 'round the mulberry bush,
the mulberry bush, the mulberry bush.
Here we go 'round the mulberry bush
So early Sunday morning.**

**This is the way I ... (for example, comb
my hair ...)**

Attach the song with magnets or pins to a refrigerator or other suitable location. Sing or chant the verse together. Have the student choose a different activity for each day of the week in turn.

Next, substitute the seasons of the year, and insert an activity that fits each season.

This is the way I ... (for example, rake the
leaves ...)

Enrichment (optional)

1. Guess the Day and Guess the Season

Step 1: Gather the Days of the Week cards and the Seasons of the Year cards. Place the Days of the Week cards face up in the correct order. Turn one card face down.

Step 2: Ask the student to read all the days of the week up to the one that is turned face down. Have the child predict which day is turned over.
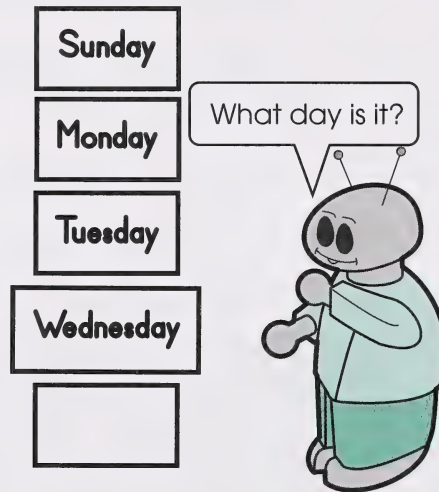
Step 3: Repeat this activity several times, turning over different days each time. Then follow a similar procedure with the Seasons Cards.
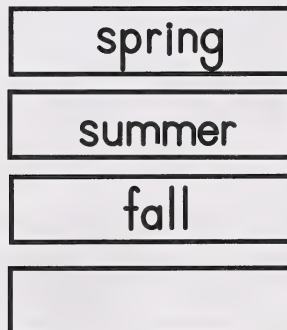
2. **What Part of the Day Is It When …?**

What Season Is It When …?

List several activities that occur during a specific part of the day or during a specific season. Ask the student to identify the time or season you are describing. Some examples follow.

What part of the day is it when you do these things?

- Get out of bed.
- Eat breakfast.
- Comb your hair.

What season of the year is it when you do the following?

- Build snowmen.
- Put on a warm coat.
- Watch snow fall from the sky.

Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 12: Assignment 1.

Next, follow the directions to do Day 12: Assignment 2.

Then complete Day 12: Learning Log. Under Student's Thoughts, instruct the child to colour the face that describes today's mathematical learning and then tell why.

End of
Day 12
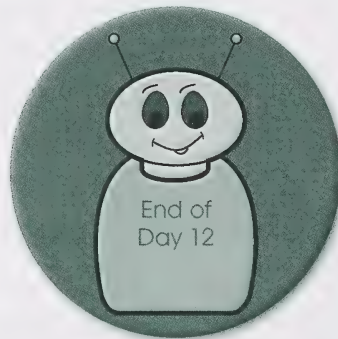
Day 13

Activities

Calendar Time

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- reviewing the order of days of the week and seasons of the year
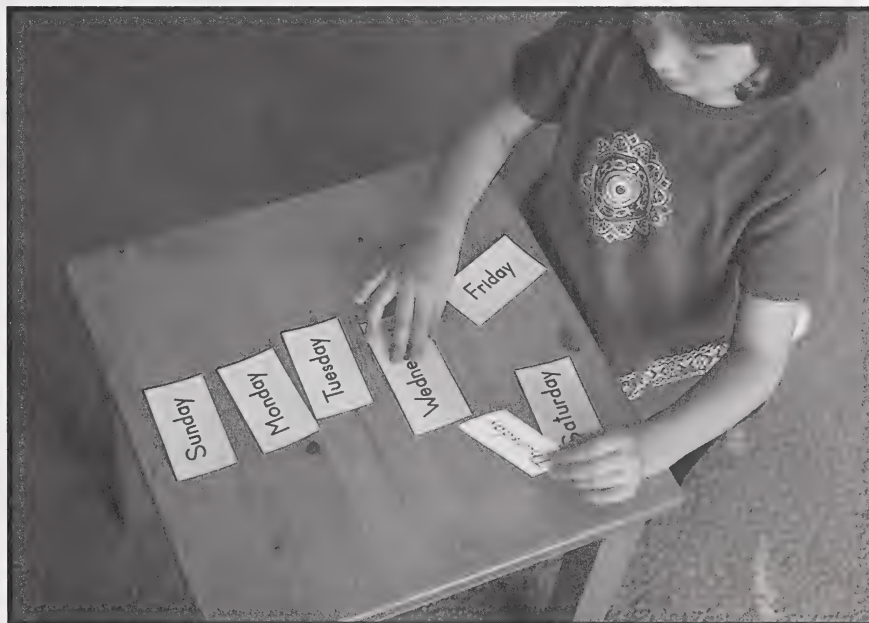
Vocabulary (spoken only)

day/days	tomorrow	summer
week	seasons/season	autumn
today	year	fall
yesterday	spring	winter

Materials Required

- box containing required materials from the master list
- the student's current calendar page
- Seasonal Pictures page from the Calendar Package
- Sentence Starter cards from the Calendar Package (optional)
- Days of the Week cards from the Calendar Package (optional)
- Seasons cards from the Calendar Package (optional)

Developing the Concept

Take out your student's calendar, and turn to the current month. Review the sequence of the **days** of the **week** with the following script.

Activities

I will point to each **day** of the **week**, and you say the name with me. Stop when we reach **today**.

What **day** is **today**?

How many **days** have gone by so far this **week**?

How many **days** are left in this **week**?

How many **days** are in one **week** in total? (seven)

Say all seven **days** in order. (Sunday, Monday, …)

Continue discussing the order of the days of the week by saying the following example. Point to the days on the calendar as you speak.

If **today** is Wednesday, **yesterday** would have been Tuesday, and **tomorrow** would be Thursday.

Print the following chart on a piece of paper or chalkboard.

yesterday	today	tomorrow
Tuesday	Wednesday	Thursday

Yesterday comes before **today**.

Tomorrow comes after **today**.

Print today's day in the correct column. Then ask the following questions.

What **day** was it **yesterday**? Print this day in the **yesterday** column.

What **day** will it be **tomorrow**? Print the day.
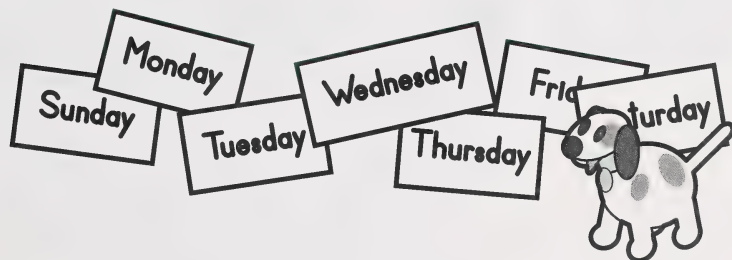
Set out the Seasonal Pictures page from the Calendar Package, and instruct as follows.

There are four **seasons** in each **year**.

The seasons are **spring**, **summer**, **autumn**, or **fall**, and **winter**.

Point to each picture on this page, and say the **season** it shows. Help as necessary.

What **season** is it right now?

How do you know?

What **season** will be next?

How do you know?

Say all four **seasons** in order. Start with **spring**. (spring, summer, fall, winter)

The seasons are **spring**, **summer**, **fall**, and **winter**.

Use the four pictures that follow to continue your discussion of the seasons of the year. Ask the following questions about each picture.

Look at picture number one. (two; three; four)

What **season** is it? (spring; winter; summer; fall)

How do you know? What is Mascot doing that gives you a clue? (standing in a puddle; building a snowman; playing at the beach; raking leaves)
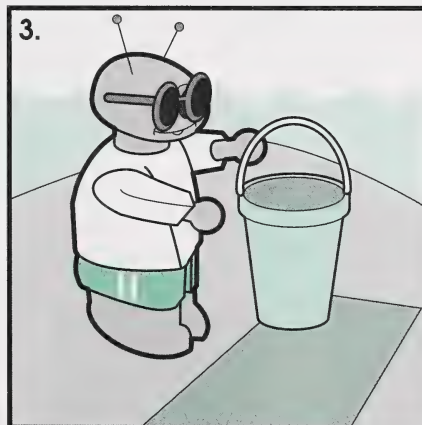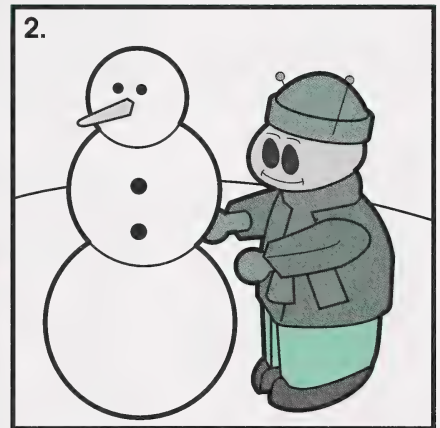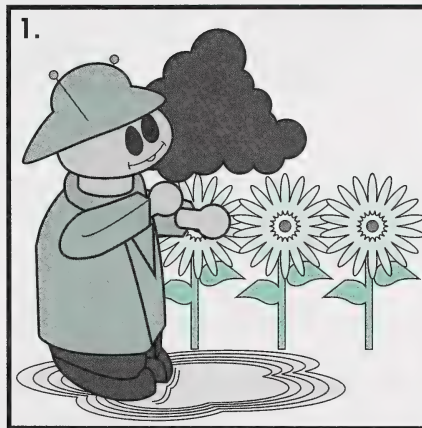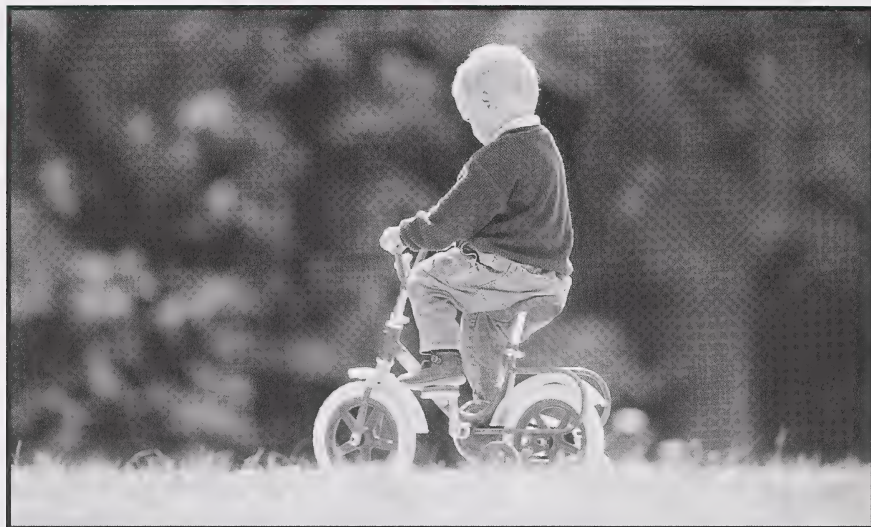
Summer

Applying the Concept

My Four Seasons Booklet

Gather the usual booklet supplies.

- one sheet of construction paper
- two sheets of unlined loose-leaf paper
- pencil crayons
- stapler

Step 1: Fold the sheet of construction paper in half to make the front and back of the booklet. Fold the two sheets of unlined paper to make the inside pages. Staple the pages together along the fold.

Step 2: Have the student print the title **My Four Seasons Booklet** on the front cover. Add the word **by** and the student's full name.

My
Four Seasons
Booklet

student's
full name
by _____
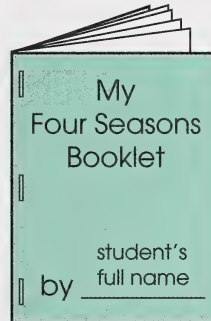
Step 3: The student can create four drawings inside, one picture of a favourite activity for each season. Then help the child print a few words about each picture.

Winter	**Spring**	**Summer**	**Fall**
Building snowmen	Walking in the rain	Playing soccer	Jumping into leaf piles

Step 4: Ask the student to print the abbreviated form of the module and day numbers, M7D13, on the back of the booklet.

M7D13

Materials

Student Folder

123
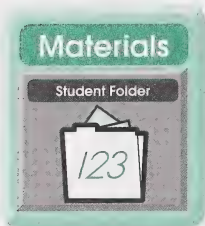
Step 5: Encourage the student to share the booklet with family and friends. Then place it in the Student Folder.

Enrichment (optional)

1. Today, Yesterday, and Tomorrow

Gather the following cards from your Calendar Package:

- Sentence Starter cards
- Days of the Week cards

Step 1: Set out the sentence-starter cards in a vertical row.

Yesterday was

Today is

Tomorrow will be
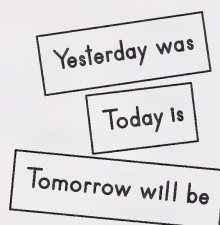
Step 2: Choose one of the days of the week, and set its card beside the **Today is** card. Have the student then select the correct days of the week to place beside the **Yesterday...** and **Tomorrow...** cards.

Yesterday was	Thursday
Today is	Friday
Tomorrow will be	Saturday
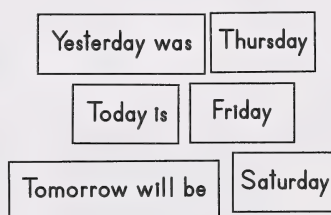
Step 3: Continue this activity until the student has assigned each day of the week to *yesterday* and *tomorrow* positions.
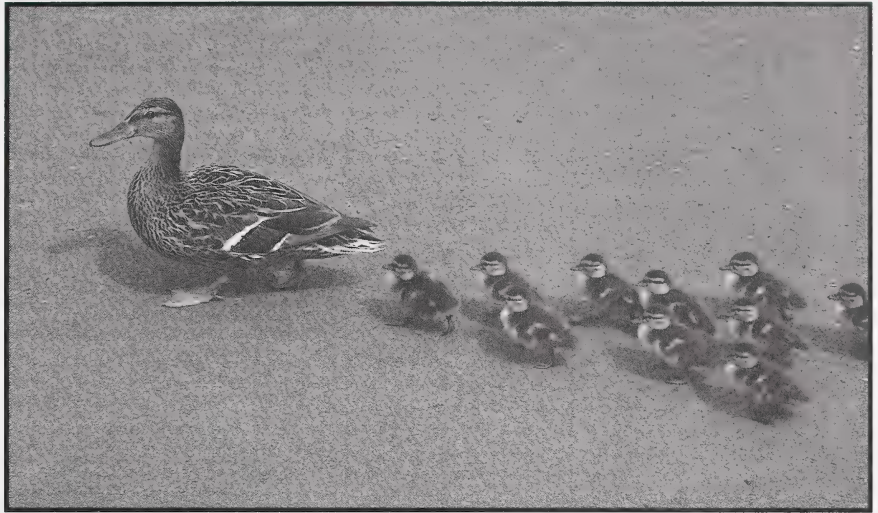
2. What Season Is It?

Gather the seasons cards and four blank index cards.

Step 1: Set out the seasons cards in a row.
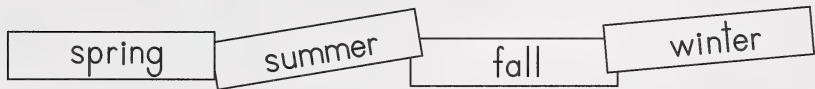
Step 2: Have the student draw a small picture on each index card to match one season—for example, a snowflake, raindrop, or coloured leaf. Place each picture under the correct seasonal column.
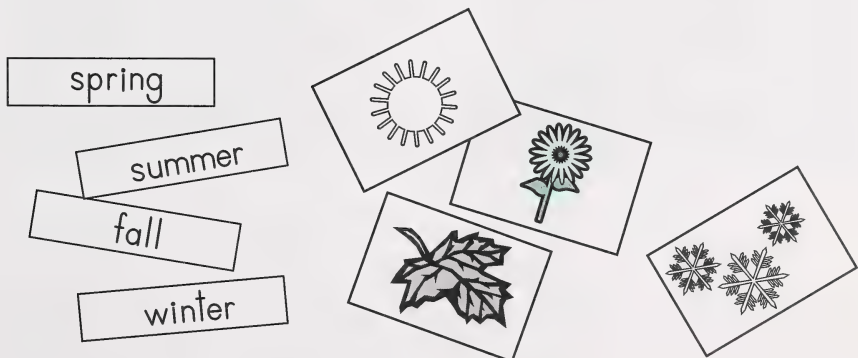
Materials

Mathematics Assignment Booklet B
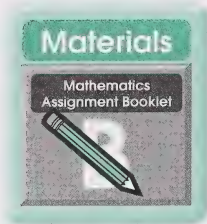
Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 13: Assignment 1.

Next, follow the directions to complete Day 13: Assignment 2.

Then complete Day 13: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

End of Day 13
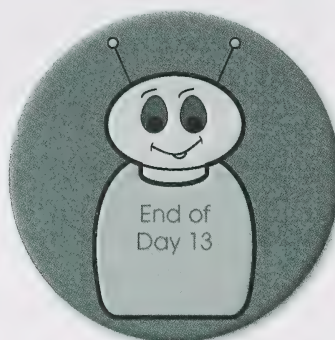
Day 14

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- reviewing the order of the seasons
- describing and comparing temperatures, using the senses
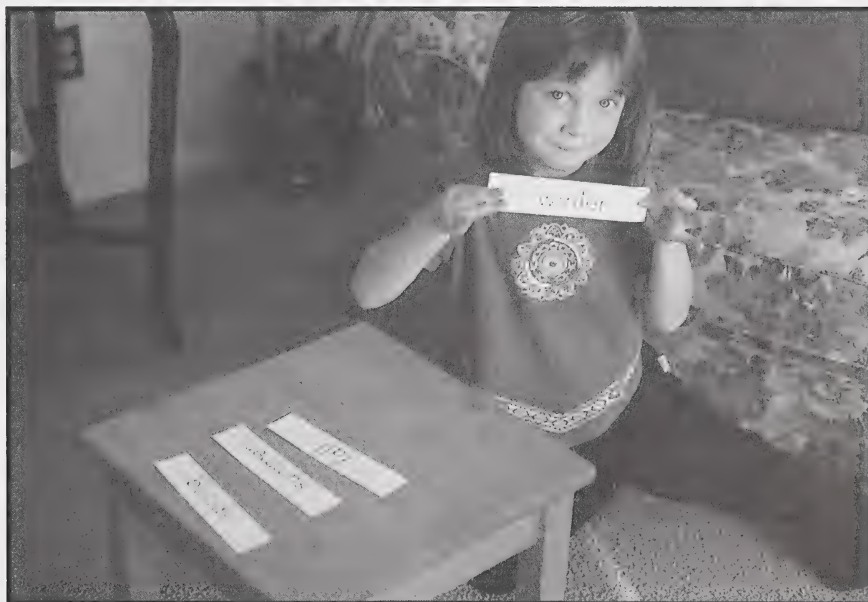
Vocabulary (spoken only)

spring	temperature	breezy	cold
warm/warmer	season/seasons	muggy	thermometer
summer	senses	chilly	
hot	cool	freezing	

Materials Required

- box containing required materials from the master list
- library books about temperature (optional)
- outside thermometer (optional)
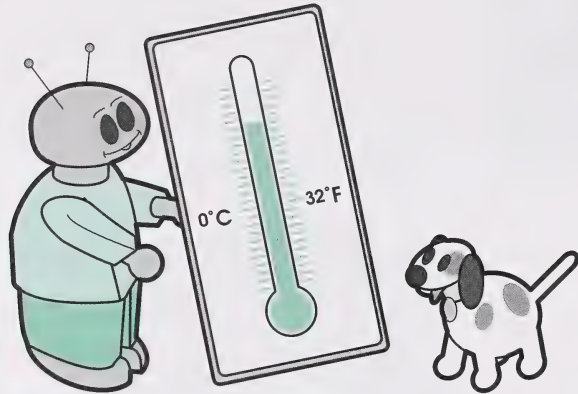
Developing the Concept

Read the following seasonal poem aloud twice with the student.

In **spring**, when the days are **warm**,
I like to find a puddle to splash in
And move about to and fro—
And splash,
    And splash,
        And splash about!
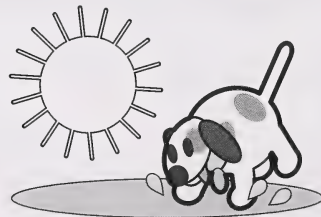
This poem was adapted from the following traditional one.

In **summer**, when the days are **hot**,
I like to find a shady spot
And hardly move a single bit—
And sit,
   And sit,
      And sit!

Read both poems again, and help the student create autumn and winter poems using the same pattern. Then read all four poems, and compare the **temperature** changes from one **season** to another.
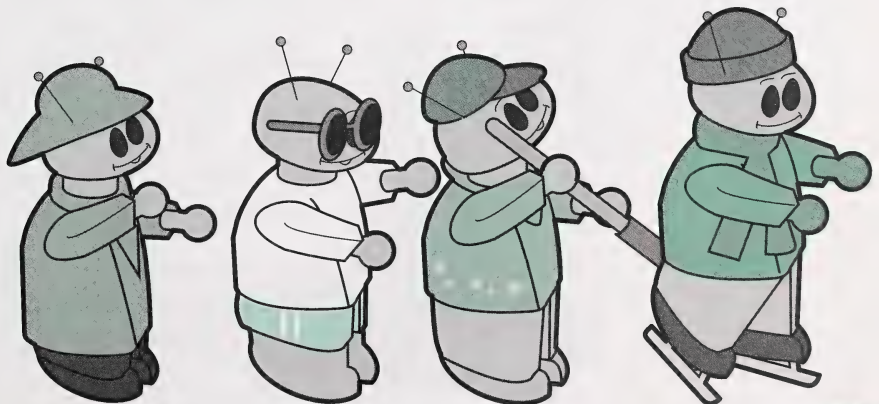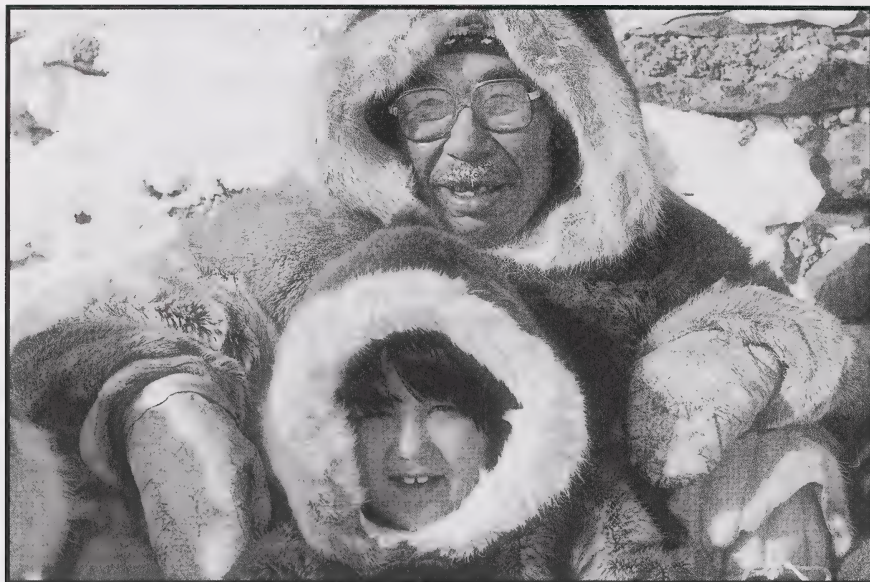
Applying the Concept

Seasonal Weather Booklet

Use your **senses** to help the student think of words that describe temperature during all the seasons; for example, the word **cool** could be used to describe how the student might feel on a **breezy** fall day or a rainy spring day.

Help the student use a sheet of loose-leaf paper to create a list of words for each season, similar to the lists that follow.

Spring	Summer	Autumn	Winter
cool	hot	cool	freezing
warm	muggy	chilly	cold

Challenge the student to add illustrations. Then place the pages in order from spring to winter, and add front and back covers. Staple the pages together to form a booklet.

Have the student print the title **Seasonal Weather** on the front cover. Add the word **by** and the student's full name.

Seasonal Weather

by student's full name

Ask the student to print the abbreviated form of the module and day numbers, M7D14, on the back of the booklet. Encourage the student to share this booklet with family and friends.

Materials

Student Folder

123

Place the booklet in the Student Folder.

Enrichment (optional)

1. Books About Temperature

Exactly the Opposite by Tana Hoban
Emmett's Snowball by Ned Miller
Fifty Below Zero by Robert Munsch
Too Hot for Ice Cream by Jean Van Leeuwen

2. Tally the Temperature

Have your student use the senses to check outside temperatures every day for a week. Discuss how, when, and where the student could do this and how to record the results.

One way to record results is to make a picture graph similar to the one that follows. This graph shows that, during the observation time, there was a variety of temperatures—one hot day, two warm days, three cool days, and one cold day.

	1 day	2 days	3 days	4 days	5 days	6 days	7 days
Hot	🌡️						
Warm	🌡️	🌡️					
Cool	🌡️	🌡️	🌡️				
Cold	🌡️						

3. What's a Thermometer?

Show an outdoor **thermometer** and record what the student knows about a thermometer. Discuss how, when, and where the student could check the outside temperature every day for a week. Suggest how to record the results.
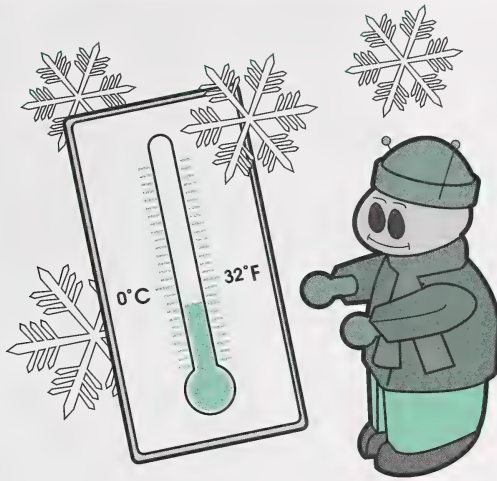
One way to record the results is to make a temperature graph similar to the following one.

Outside Temperature at Noon
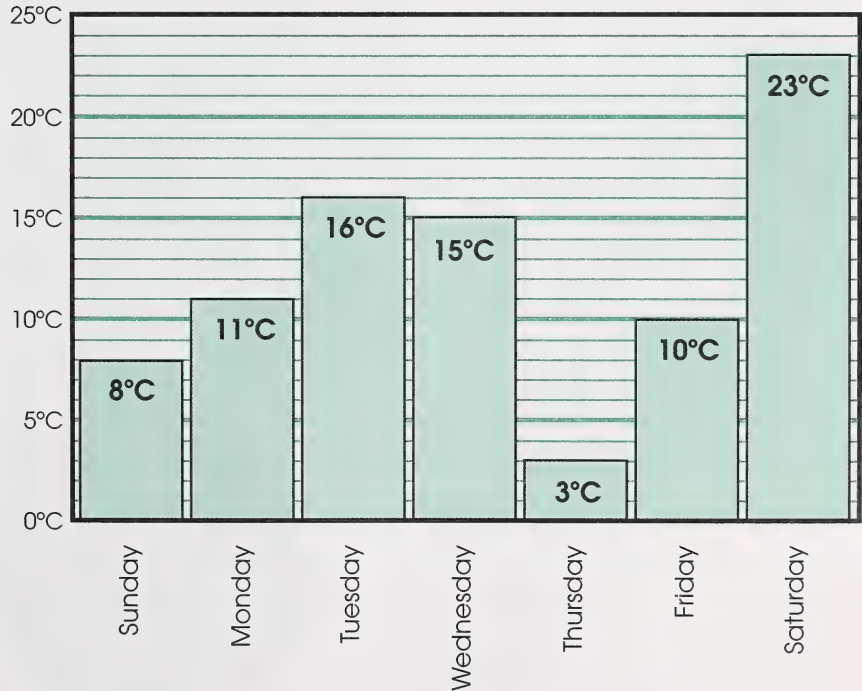
Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 14: Assignment 1.

Next, follow the directions to complete Day 14: Assignment 2.

Then complete Day 14: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

Materials

Mathematics Assignment Booklet

End of Day 14

Day 15

Activities
Calendar Time
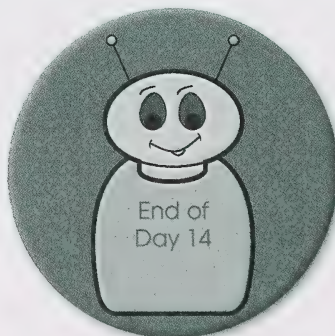
Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- reviewing the concept of time
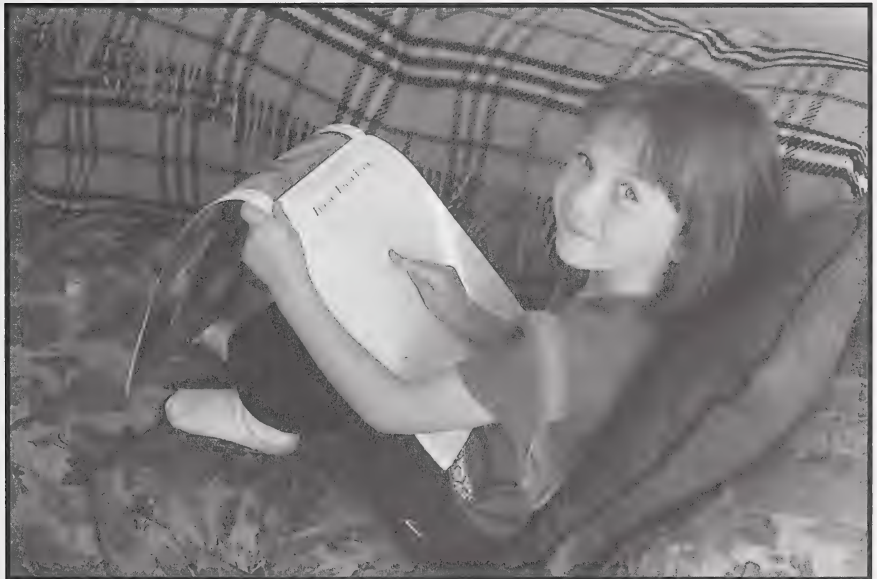
Vocabulary (spoken only)

review	estimate	beginning	seasons
morning	first	order	season
afternoon	actual	month	
evening	day	last	
longer	week	year	

Materials Required

- box containing required materials from the master list
- shoes that tie
- student's personal calendar
- Seasonal Pictures page from the Calendar Package
- Days of the Week cards (optional)
- Seasons of the Year cards (optional)
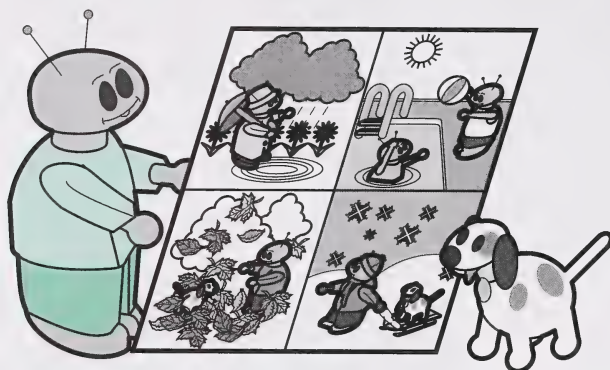
Developing the Concept

Activities

Review is a key element in the learning process. By revisiting a concept, your student has the opportunity to develop a deeper understanding of it.

Review also helps the student retain concepts.

Begin with the following script to review the time of day.

Activities

What time of day do you get out of bed?

Is it **morning**, **afternoon**, or **evening**? (**morning**)

What time of day do you eat supper? (**evening**)

What is one activity you do during the **afternoon**?

Next, review the passage of time using nonstandard units.

If you didn't have a clock, how could you find out whether 10 hops took **longer** to do than tying your shoelaces? Guide the student to suggest counting pendulum swings, hand claps, or the regular taps of a pencil.

Estimate how many pencil taps it would take you to hop 10 times. Record the estimate.

How many pencil taps would it take you to tie your shoelaces? Record the estimate.

You can try the two activities.

Which one would you like to do **first**?

While you do each one, I will tap the pencil and silently count the number of taps. To help you regulate the count, say "One, one thousand, …" for each pencil tap.

After you finish, I will tell you the **actual** number of taps.

You record this amount beside your **estimate**.

Time both activities with this procedure. Then ask the following questions.

How close were your **estimates** to the **actual** counts? Compare and discuss.

Which activity took **longer**?

Applying the Concept

Use the student's personal calendar to instruct as follows.

Point to the **day** of the **week** that says Sunday.

Beginning with Sunday, point to each **day** of the **week** in **order**, and say its name.

What is the **first day** of the **month**?

What is the **last day** of the **month**?

Use the Seasonal Pictures page from the Calendar Package as follows.

In a **year**, there are four **seasons**.

The **seasons** are spring, summer, autumn, or fall, and winter.

Point to each picture on this page, and say the **season** it shows. Help as necessary.

What is the **season** when we make snowmen? (winter)

What is the **season** when the snow melts? (spring)

Beginning with spring, say the four **seasons** in **order**. (spring, summer, fall, winter)

What is one activity that we do in the spring?

What is one activity that we do in the fall, or autumn?

Enrichment (optional)

1. Morning, Afternoon, and Evening

Step 1: Divide an unlined loose-leaf paper vertically into three equal sections. Have the student label the top of each section as shown in the following example.

morning	afternoon	evening

Step 2: In each section, have the student illustrate and label two to three activities that happen during that time of the day.

morning	afternoon	evening
wake up	eat lunch	go to bed

2. Days of the Week and Seasons of the Year

Gather the Days of the Week cards and the Seasons of the Year cards from the Calendar Package.

Step 1: Mix up the Days of the Week cards, and ask the child to place them in the correct order. Start with Sunday.

Sunday

Monday

Tuesday dnesday

Frid Thursday

Saturday
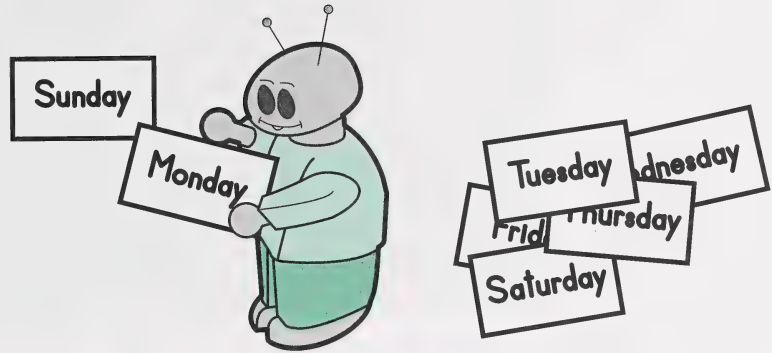
Step 2: Ask the student to choose one day from the Days of the Week cards, for example, Tuesday. Then have the child place the rest of the cards in order from that day.

Today is Tuesday.

Sunday Monday Tuesday We Thursday Friday Saturday
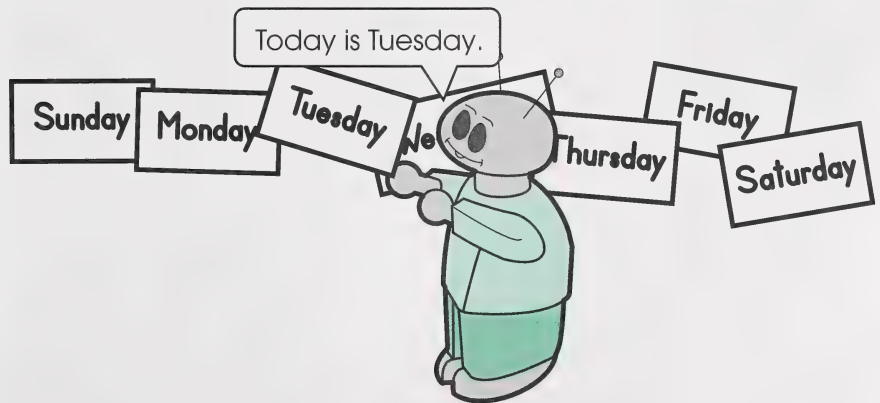
Step 3: Repeat a similar procedure with the seasons cards.
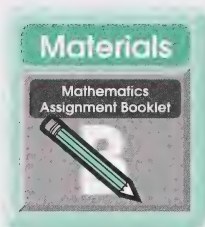
spring summer fall winter

Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7B, and follow the directions to do the assignment for Day 15.

Then complete Day 15: Learning Log. Under Student's Thoughts, help the child complete the assessment of how well each reviewed concept was remembered.

End of Day 15
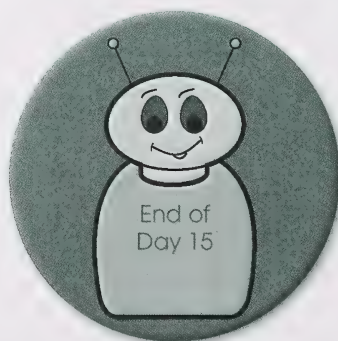
Day 16

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- recognizing, naming, and sorting pennies, nickels, dimes, quarters, and loonies

- stating the value of pennies, nickels, and dimes

Vocabulary (spoken only)

pennies	quarters	value	fewest
nickels	loonies	greatest	count
dimes	coins	cents	

Materials Required

- box containing required materials from the master list
- collections of pennies, nickels, dimes, quarters, and loonies
- a separate container for each type of coin
- cardboard to make a spinner card and spinner arrow
- paper rivet
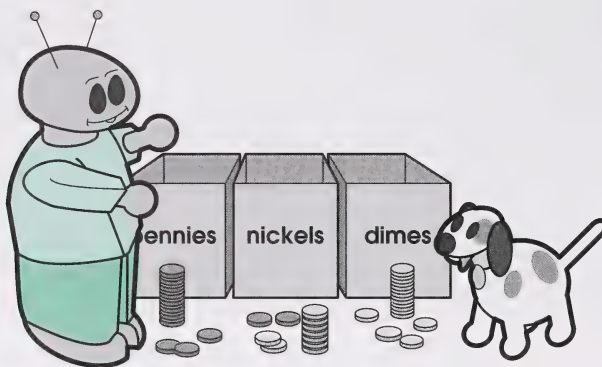
Developing the Concept

Display a mixed-up collection of **pennies**, **nickels**, **dimes**, **quarters**, and **loonies**. Use the following script.

Activities

Tell me the kinds of **coins** you see here. Help the student correctly name the pennies, nickels, dimes, quarters, and loonies. Talk about the special features of each type of coin.

Where have you seen **coins** sorted into groups like these? (cash registers, banks, stores)

Have the student group the coins into containers according to type. Review the names of the coins as the student sorts. Then discuss the following.

How many **pennies** equal a **nickel**? (five)

How many **pennies** equal a **dime**? (ten)

Activities

Teaching Tip

Activities that involve **value** and equivalent value help the child develop skills for everyday money-exchange situations.

Applying the Concept

Counting Forward to 100

Gather the following supplies:

- collections of pennies, nickels, and dimes
- cardboard
- paper rivet

Help the student make a three-sectioned spinner card similar to the following.
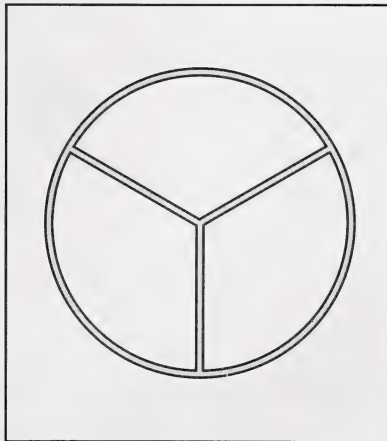
In one section, draw the shape of a penny; in the next section, draw the shape of a nickel; in the third section, draw the shape of a dime. Then use a paper rivet to attach a spinner arrow to the middle of the card.
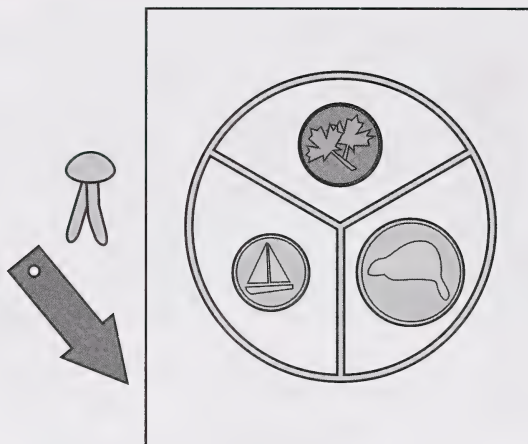
Have the student spin the arrow. Use the coin that the arrow stops at to show the number from which the student will count forward to 100. For example, if the arrow lands on the nickel, have the student count by fives to 100.
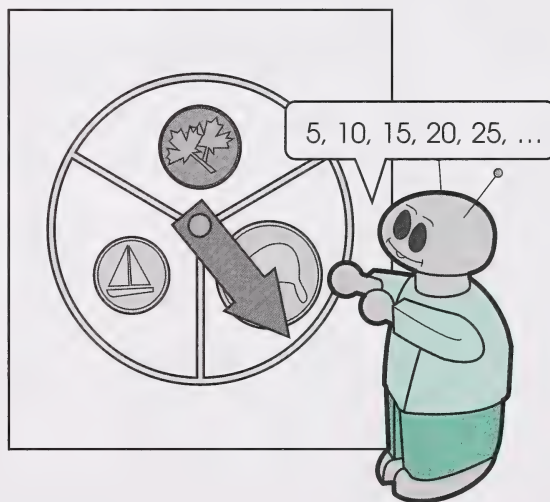
If the arrow lands on the dime, have the student count by tens to 100, and if it lands on the penny, by ones to 100.

Play the game again, but this time, allow two spins. Begin at the first number, and count forward by ones, fives, or tens, depending upon where the second spin lands.

For example, if the arrow lands on the dime first and then the nickel, the player would begin at ten and then count forward by fives: 10, 15, 20, 25, ... 100. If the arrow lands on the nickel and then the penny, the player would begin at five and count forward by ones: 5, 6, 7, ... 100.

Activities

Teaching Tip
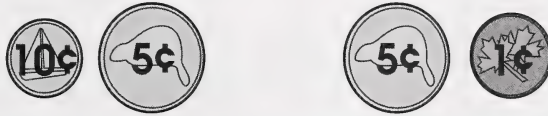
While playing this game, watch carefully to see whether the student confuses the value of pennies, nickels, or dimes. If so, continue to remind the child of the value of these coins and to provide opportunities to use them in everyday situations, such as while making small purchases.

Enrichment (optional)

1. Coin Count

For this activity, the student will need three containers and a mixed collection of pennies, nickels, and dimes.

Step 1: Ask the child to sort each type of coin into a separate container. Meanwhile, review the special features of each coin and its value.
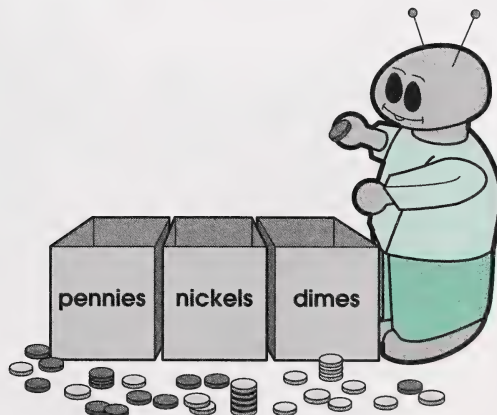
Step 2: Set out a variety of coins, not exceeding 25 **cents** in total value.

Ask the total value of the coins. Have the student count the coin with the **greatest** value first. Help as necessary. For example, lead the child to arrange the coins in order of value from greatest to least.

Step 3: Take away one coin, and ask the value now.

10, 15, 16, 17 **cents**.
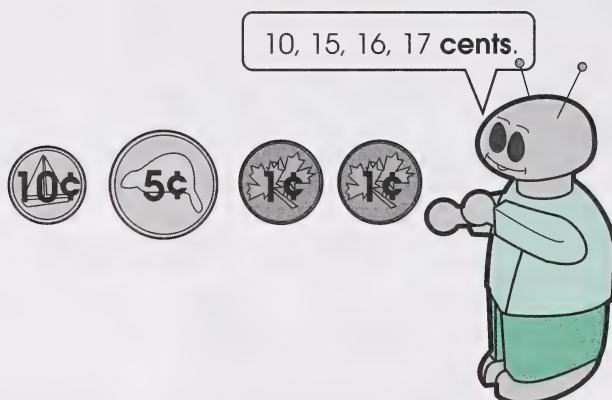
Step 4: Add a new coin, and ask how much there is now.

10, 15, 20, 21, 22 **cents**.
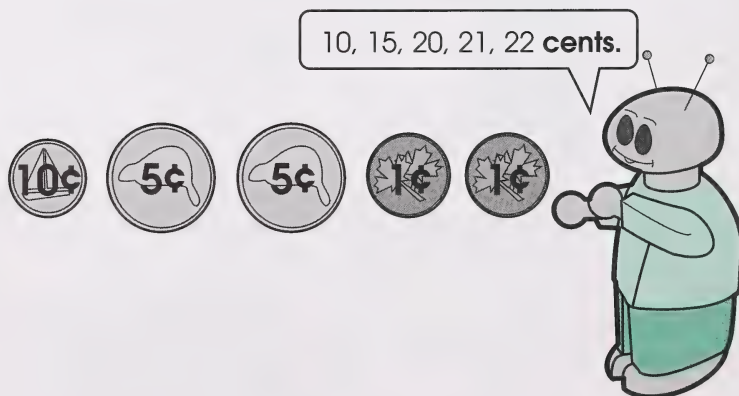
Step 5: Have the student return all the coins to their designated containers, and then start with Step 2 again.

How much?

10¢ 10¢ 5¢ 1¢
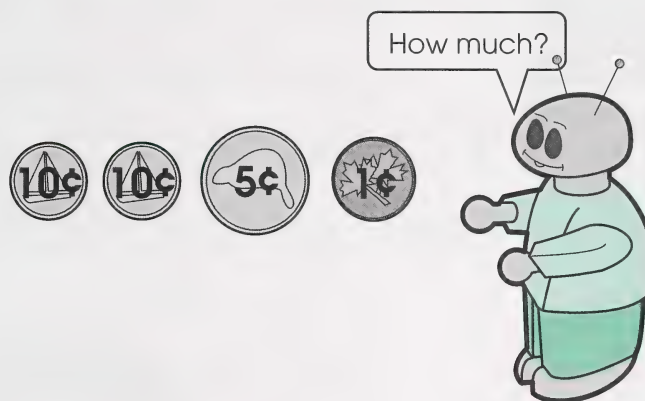
2. Can You Show Me?

Step 1: Gather your collection of pennies, nickels, dimes, and quarters. Ask the student to show you random values of coins, as in the following examples.

Show me 11 **cents**.

Show me 43 **cents**.

Step 2: Have the child show each amount with the **fewest** coins possible.
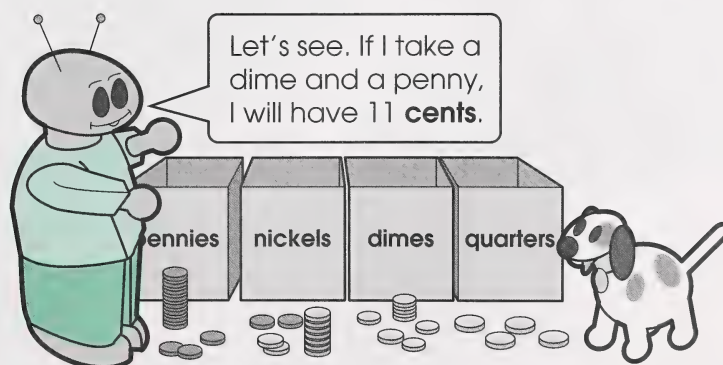
Let's see. If I take a dime and a penny, I will have 11 **cents**.

pennies   nickels   dimes   quarters

Materials

Mathematics Assignment Booklet
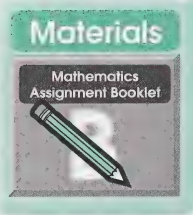
Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 16: Assignment 1.

Next, follow the directions to complete Day 16: Assignment 2.

Then complete Day 16: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

End of Day 16
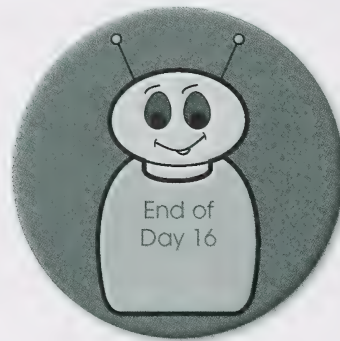
Day 17

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- creating equivalent sets of coins up to ten cents in value

Vocabulary (spoken only)

coin/coins	trades/trade
worth	fair trade
value	equivalent

Materials Required

- box containing required materials from the master list
- collections of pennies, nickels, and dimes

pennies | nickels | dimes
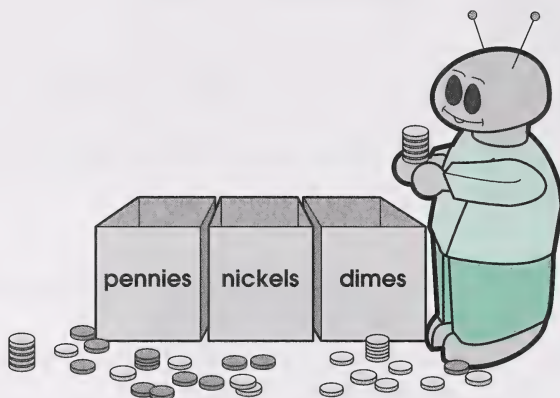
Developing the Concept

Display a penny, nickel, and dime in front of the student. Have the child share what is known about each one. Use the following script to guide the child's thoughts about each **coin**.

Activities

What is the name of this **coin**?

How much is it **worth**, or what is its **value**?

Name something you could buy with this coin. (Accept any reasonable answer.)

Next, use the following questions to discuss **trades**.

What does the word **trade** mean? (The student should generally define **trade** as giving one thing in return for something else.)

What do you think a **fair trade** is? (giving one thing in return for something of **equivalent** value)

Show the student five pennies, and ask the following question.

What **coin** would be a **fair trade** for these pennies? (one nickel)

Guide the student to understand that a nickel would be a **fair trade**, because five pennies and one nickel are both **worth** five cents.

Use a similar procedure for ten pennies. However, this time have the student estimate and record how many pennies are in the set before making the fair trade for one dime.

Take turns making fair trades up to ten cents in **value**, until the student understands that the traded amount is the same as the original amount or until the child shows signs of fatigue.

> Ten pennies is the same as one dime or two nickels.
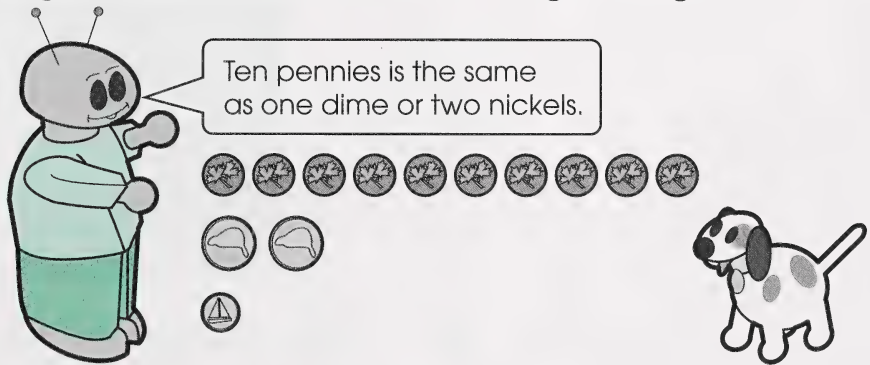
Applying the Concept

My Fair Trade Booklet

Gather the following supplies:

- one sheet of construction paper
- one sheet of unlined loose-leaf paper
- pencil crayons
- stapler
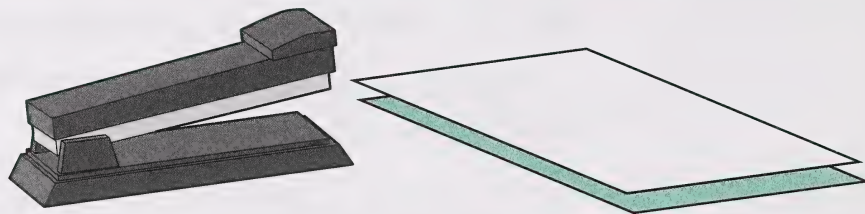
Step 1: Fold the sheet of construction paper in half to make front and back covers for the booklet. Fold the sheets of loose-leaf paper to make the inside pages. Staple the pages together along the fold.

Step 2: Help the student print **My Fair Trade Booklet** on the front cover. Add the word **by** and the student's full name.

My Fair Trade
Booklet

by student's
full name
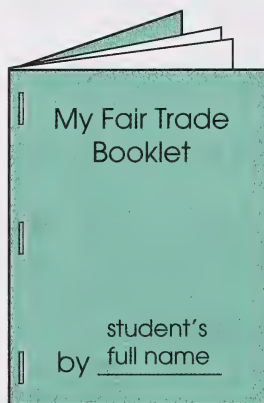
Step 3: Have the student use the first inside page to illustrate that five pennies is the same as one nickel.
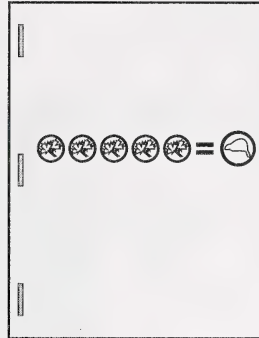
Step 4: Have the student illustrate on the next page that ten pennies are the same as two nickels or one dime.
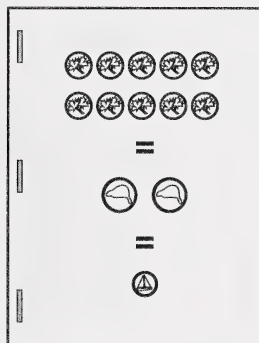
Step 5: Have the student print the abbreviated form of the module and day numbers, M7D17, on the back of the booklet.

M7D17
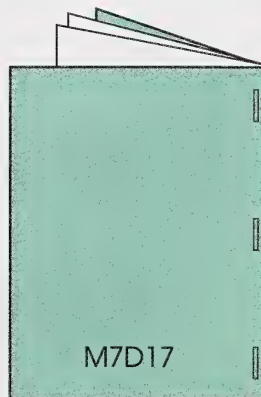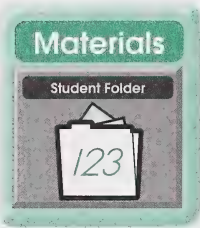
Step 6: Encourage the student to share the booklet with family and friends. Then place it in the Student Folder.
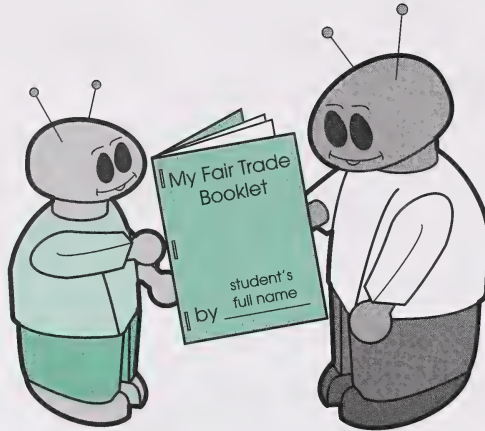
Enrichment (optional)

More Fair Trade Fun

Step 1: Gather your collection of pennies, nickels, and dimes. Show the student a nickel, and ask how much it is worth. Guide the child to say that it is worth five cents and to count five pennies aloud while placing them beside the nickel.

Step 2: Add one penny to create a set of six pennies, and ask the student how to show six cents another way. Discuss the child's ideas for a solution.

Step 3: Continue with a similar procedure for a dime.
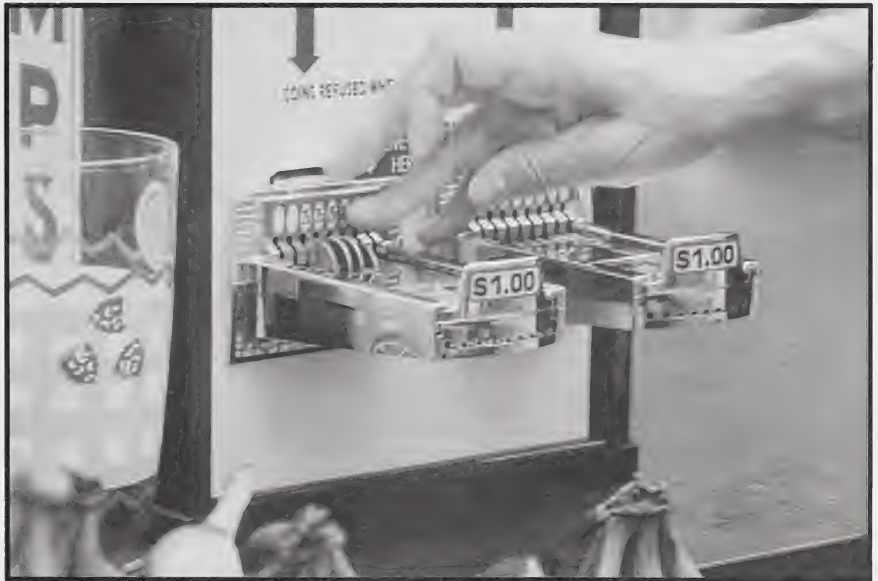
I could trade the dime for ten pennies.

Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 17: Assignment 1.

Next, follow the directions to complete Day 17: Assignment 2.

Then complete Day 17: Learning Log. Under Student's Thoughts, instruct the student to colour the face that describes this day's mathematical learning and then tell why.

End of
Day 17

Day 18

Activities
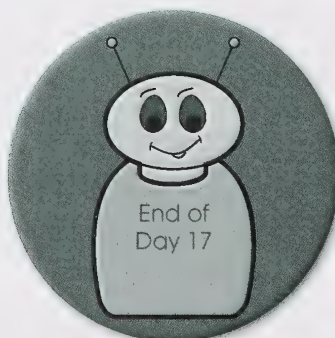
Calendar Time

Calendar Time

Time recommended: 10 minutes

Proceed with Calendar Time activities as usual.

Focus for Today

Time recommended: 45 minutes

- recognizing, naming, and stating the value of pennies, nickels, and dimes

- illustrating that a given amount of money can be represented by different coin combinations

- counting change
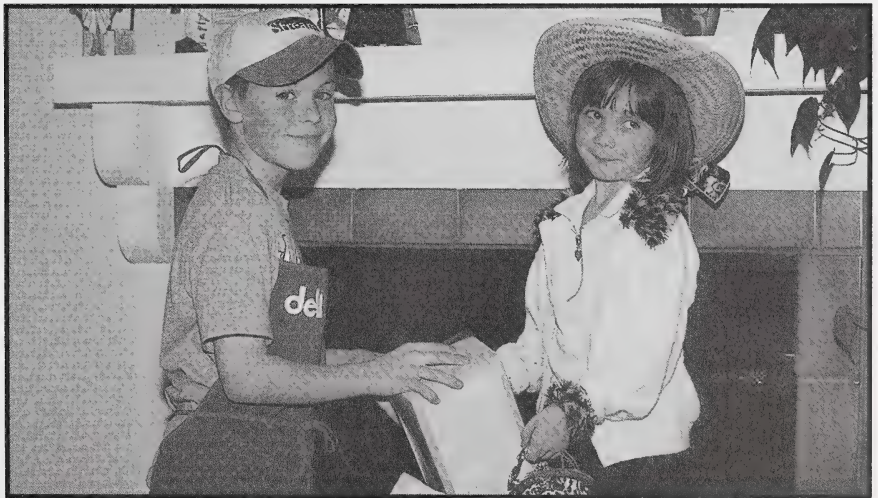
Vocabulary (spoken only)

change
less than

Materials Required

- box containing required materials from the master list

- collections of pennies, nickels, and dimes in separate containers

- at least six small items that the student would like to purchase
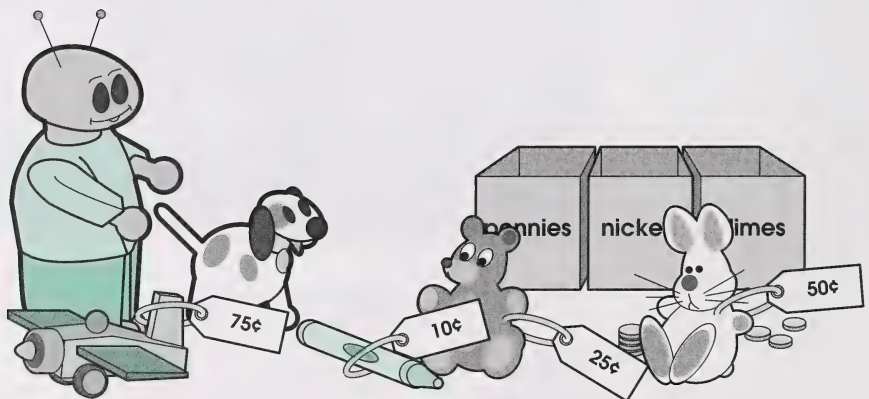
Developing the Concept

Today's topics—identifying subsets of coins and counting **change**—have practical, real-world applications.

Activities

Teaching Tip

Today's skills will be used throughout the student's life whenever buying or selling anything.

Real-life applications can help the child learn these skills. You could use examples such as grocery shopping, clothes shopping, visits to restaurants, and other activities that require the exchange of money.

Allow your student to count the coins before or the **change** after small purchases. Through such personal experiences, the child will learn about the value and use of money.

Coins fascinate most young children. You could encourage the student's exploration of coins by setting up a small store in a play area and making real coins available for use in the store.

STORE

99¢

25¢

50¢

75¢

80¢

cereal

Cut an unlined sheet of loose-leaf paper into small rectangles to use as price tags. Print the following prices on six of the tags: 2¢, 4¢, 7¢, 8¢, 21¢, and 24¢.

Set out the six small items that you collected, and place one tag in front of each item. Then use the three containers of coins with the dialogue that follows.

Activities
Home Instructor's Script

Here are two dimes, two nickels, and two pennies.

Take one nickel. Which items cost **less than** five cents? (two cents and four cents)

Choose the two-cent item.

You can use your nickel to buy the item that costs two cents. You will get some **change** back.

Hold the container of pennies, and count the change back to the student, one cent at a time. Make sure that you point to the item and start counting with the cost of that item.

Here is your **change**. The item costs two cents. Point to the item. Here is three cents, four cents, and five cents.

two cents, three cents, four cents, five cents

2¢
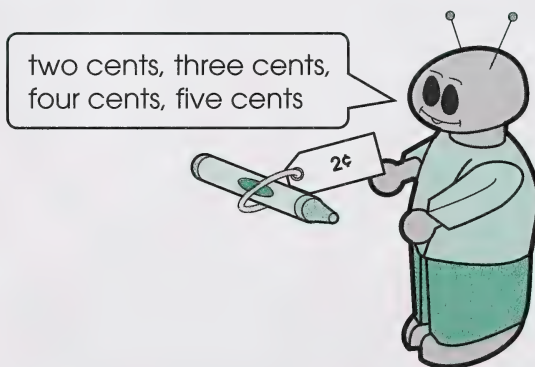
Now, I have your nickel, and you have a two-cent item plus three cents **change**. That equals one nickel. Have the student return the change and the item, and you give back the nickel.

Take out one of your dimes.

Which items can you buy for one dime? (two cents, four cents, seven cents, eight cents)

Choose the seven-cent item.

If you buy the seven-cent item with your dime, will you get **change** back? (yes)

Here is your **change**. The item costs seven cents. Point to the item. Here is eight cents, nine cents, and ten cents.

Now, I have your dime, and you have a seven-cent item plus three cents **change**. That equals one dime. Return the dime to the student, and have the student give back the item plus change.

Take out two dimes and one nickel.

Which items can you buy with these coins? (all of them)

Choose the 21-cent item.

If you pay me 25 cents for a 21-cent item, will you get **change** back? (yes)

How much? (four cents)

Your item costs 21 cents. Point to the item. Here is 22 cents, 23 cents, 24 cents, and 25 cents.

I have your two dimes and one nickel, and you have a 21-cent item plus four cents **change**. That equals 25 cents.

If you bought the four-cent item with your change, how much **change** would you get back? (zero cents)

Use the same procedure to finish selling the last two items. Then switch roles. Have the student act as the seller while you are the buyer.

Use the same items and price tags and the following script.

I will buy the four-cent item. If I give you one nickel, how much **change** will I get back? (one cent)

Count it back to me. Point to the item. (four cents, five cents)

Now, I will buy the eight-cent item. If I give you one dime, how much **change** will I get back? (two cents)

Count it back to me. Point to the item. (eight cents, nine cents, ten cents)

Now, I will buy the 24-cent item. Which coins could I give you? (Accept any correct answer.)
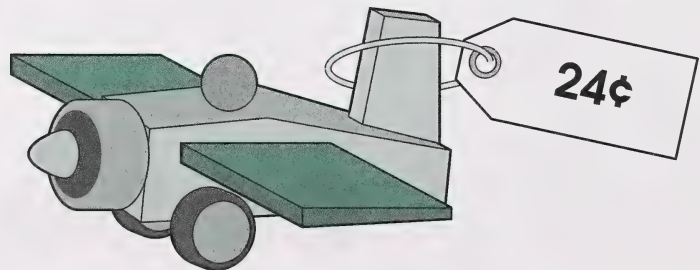
If I give you two dimes and one nickel, how much **change** will I get back? (one cent)

Count it back to me. Point to the item. (24 cents, 25 cents)

Finish buying all six items. If the student has difficulty, take new items and price tags, and have the child continue to make change for prices up to 25 cents.

Applying the Concept

Counting Change

Gather your collections of pennies, nickels, and dimes in separate containers and items that the student could purchase.

Step 1: Cut unlined paper into small squares, and print price tags in the ranges of 1 to 4, 6 to 9, and 21 to 24 cents.

1¢	3¢		6¢	8¢		21¢	23¢
2¢	4¢		7¢	9¢		22¢	24¢
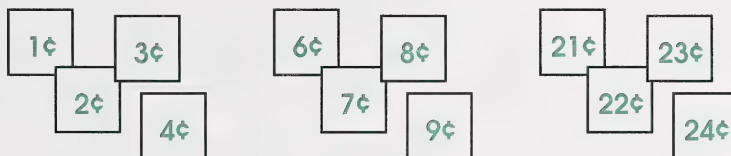
Step 2: Give your student the containers of coins.

Step 3: Set one price tag and one item in front of the student, and use the following script.

Which coins would you use to purchase this item?

How much change will you get back?

Count the change with me.

Set things on the table in this order: the coins the student has chosen, the price tag, and the change that is given back.

Materials

Mathematics Assignment Booklet

Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 18: Assignment 1.

Enrichment (optional)

I Have, I Buy, My Change Game

Gather some index cards, transparent tape, glue, old catalogues, scissors, a felt pen, and your collections of pennies, nickels, and dimes.

Step 1: Print **I Have** at the top of nine blank index cards, **I Buy** on nine other cards, and **My Change** on nine more cards.

I Have   I Buy   My Change
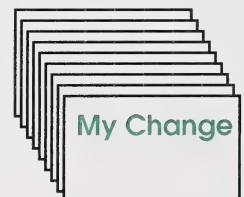
Step 2: Use transparent tape to attach either one nickel, one dime, or a combination of the two coins to each of the cards that say **I Have**.

I Have 10¢

I Have 5¢

I Have 10¢ 10¢

I Have 10¢ 10¢ 10¢

I Have 10¢ 5¢

I Have 5¢ 5¢ 5¢

I Have 10¢ 5¢

I Have 5¢

I Have 5¢ 5¢

I Have 10¢ 10¢ 5¢
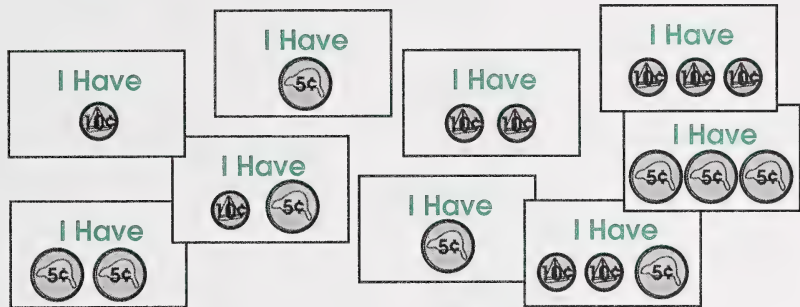
Step 3: Have the student draw an item or choose a catalogue picture to glue onto each of the cards that say **I Buy**. Show a price tag beside each item.

I Buy 5¢

I Buy 12¢

I Buy 24¢

I Buy 4¢

I Buy 7¢

I Buy 21¢

I Buy 3¢

I Buy 17¢

I Buy 7¢
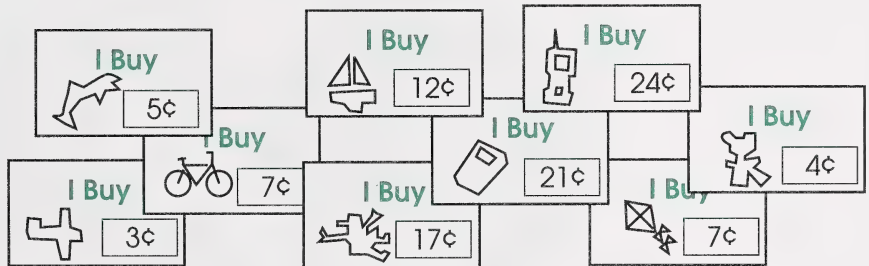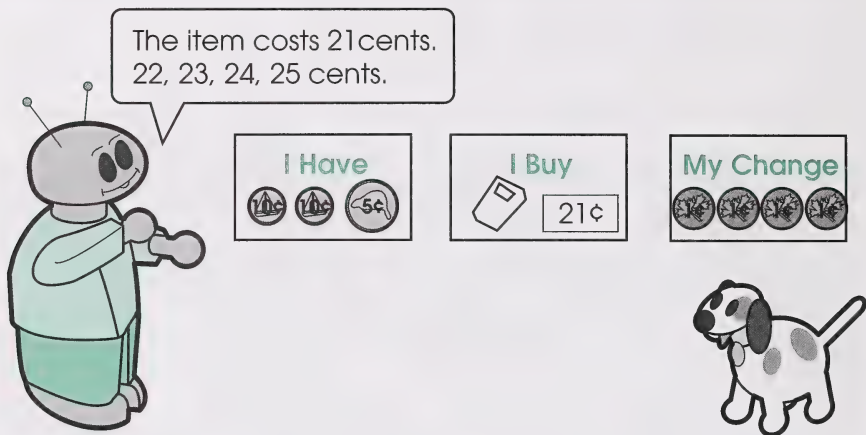
Step 4: Help the student choose a card that says **I Have** and an appropriate one that says **I Buy**.

I Have 10¢

I Buy 7¢

Have the student tape the correct change from the collection of coins to a card that says **My Change**.

I Have 10¢

I Buy 7¢

My Change

Step 5: Help the student complete the remaining eight transactions.
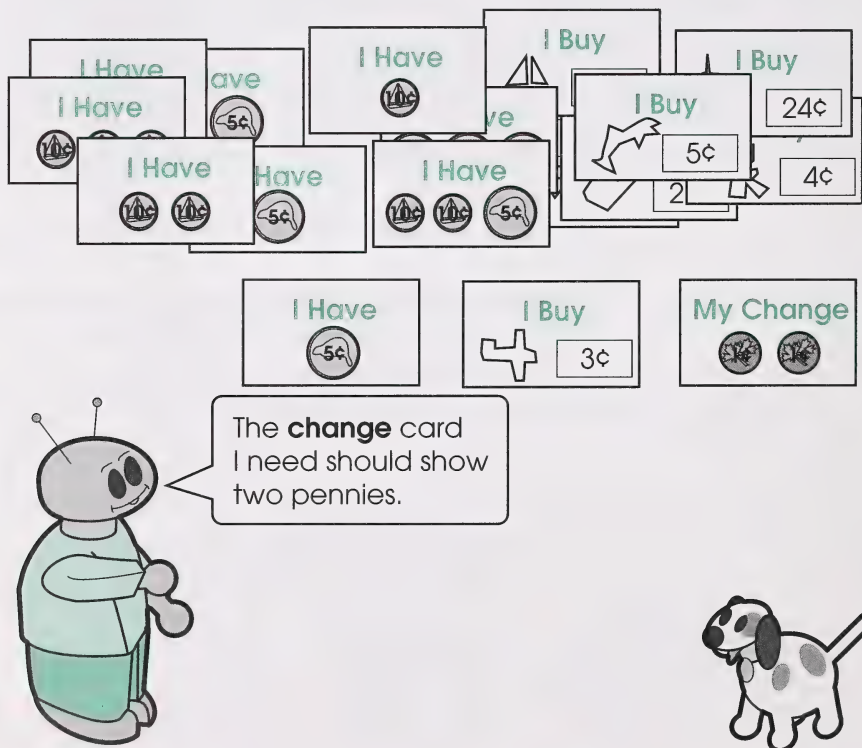
> The item costs 21cents.
> 22, 23, 24, 25 cents.

I Have	I Buy	My Change
10¢ 10¢ 5¢	21¢	1¢ 1¢ 1¢ 1¢

Step 6: Take turns mixing up the three sets of cards and placing them together correctly.

I Have	I Buy	My Change
5¢	3¢	1¢ 1¢

> The **change** card I need should show two pennies.

Materials

Mathematics Assignment Booklet B

Turn to Mathematics Assignment Booklet 7B, and follow the directions to do Day 18: Assignment 2.

Materials

Mathematics Assignment Booklet B

At the end of Mathematics Assignment Booklet 7B, follow the directions to complete Day 18, Student Folder Items. Gather the required materials from your Student Folder. Submit these items to your student's teacher for marking at the time the teacher has requested them.

End of Day 18

Congratulations!
You have completed
Mathematics Module 7.

Image Credits

Some clip art drawings are
commercially owned.

Contents

PhotoDisc, Inc.

Page